

DEPARTMENT OF THE INTERIOR

FRANKLIN K. LANE, SECRETARY

THE
YELLOWSTONE
NATIONAL PARK

Season of 1916

GENERAL INFORMATION

The Wonder Spot of America—Its Marvelous Geysers and How to See Them—How a Geyser “Works”—The Gorgeous Grand Canyon of the Yellowstone, brilliant and varied in color beyond description—Largest Wild Animal Refuge in the World—The Petrified Forests—How to Reach the Park—Hotels and Camps and Cost of Living—Traveling Facilities and Cost—Maps.



WASHINGTON
GOVERNMENT PRINTING OFFICE
1916

THE NATIONAL PARKS AT A GLANCE

Chronologically in the order of their creation

[Number, 14; Total area, 7,290 Square Miles]

NATIONAL PARKS in order of creation	LOCATION	AREA in square miles	DISTINCTIVE CHARACTERISTICS
Hot Springs..... 1832	Middle Arkansas	1½	46 hot springs possessing curative properties—Many hotels and boarding houses—20 bathhouses under public control.
Yellowstone..... 1872	North-western Wyoming	3,348	More geysers than in all rest of world together—Boiling springs—Mud volcanoes—Petrified forests—Grand Canyon of the Yellowstone, remarkable for gorgeous coloring—Large lakes—Many large streams and waterfalls—Vast wilderness inhabited by deer, elk, bison, moose, antelope, bear, mountain sheep, beaver, etc., constituting greatest wild bird and animal preserve in world—Altitude 6,000 to 11,000 feet—Exceptional trout fishing.
Yosemite..... 1890	Middle eastern California	1,125	Valley of world-famed beauty—Lofty cliffs—Romantic vistas—Many waterfalls of extraordinary height—3 groves of big trees—High Sierra—Large areas of snowy peaks—Waterwheel falls—Good trout fishing.
Sequoia..... 1890	Middle eastern California	237	The Big Tree National Park—12,000 sequoia trees over 10 feet in diameter, some 25 to 36 feet in diameter—Towering mountain ranges—Startling precipices—Fine trout fishing.
General Grant.... 1890	Middle eastern California	4	Created to preserve the celebrated General Grant Tree, 35 feet in diameter, some 25 to 36 feet in diameter—6 miles from Sequoia National Park and under same management.
Mount Rainier... 1899	West central Washington	324	Largest accessible single-peak glacier system—28 glaciers, some of large size—48 square miles of glacier, 50 to 500 feet thick—Wonderful sub-Alpine wild-flower fields.
Crater Lake..... 1902	South-western Oregon	249	Lake of extraordinary blue in crater of extinct volcano, no inlet, no outlet—Sides 1,000 feet high—Interesting lava formations—Fine trout fishing.
Mesa Verde..... 1906	South-western Colorado	77	Most notable and best preserved prehistoric cliff dwellings in United States, if not in the world.
Platt..... 1906	Southern Oklahoma	1½	Many sulphur and other springs possessing medicinal value, under Government regulation.
Glacier..... 1910	North-western Montana	1,534	Rugged mountain region of unsurpassed Alpine character—250 glacier-fed lakes of romantic beauty—60 small glaciers—Peaks of unusual shape—Precipices thousands of feet deep—Almost sensational scenery of marked individuality—Fine trout fishing.
Rocky Mountain. 1915	North middle Colorado.	358	Heart of the Rockies—Snowy range, peaks 11,000 to 14,250 feet altitude—Remarkable records of glacial period.

National parks of less popular interest are:

- Sullys Hill, 1904, North Dakota..... Wooded hilly tract on Devils Lake.
- Wind Cave, 1903, South Dakota..... Large natural cavern.
- Casa Grande Ruin, 1892, Arizona..... Prehistoric Indian ruin.

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GENERAL INFORMATION REGARDING YELLOWSTONE NATIONAL PARK.

GENERAL DESCRIPTION.

THE Yellowstone is probably the best known of our National Parks. Its geysers are celebrated the world over because, for size, power, and variety of action, as well as number, the region has no competitor. New Zealand, which ranks second, and Iceland, where the word "geyser" originated, possess the only other geyser basins of prominence, but both together do not offer the visitor what he may see in two or three days in Yellowstone. Indeed, the spectacle is one of extraordinary novelty. There are few spots in this world where one is so strongly possessed by emotions of wonder and mystery. The visitor is powerfully impressed by a sense of nearness to nature's secret laboratories.

The Yellowstone National Park is located in northwestern Wyoming, encroaching slightly upon Montana and Idaho. It is our largest national park. The central portion is essentially a broad, elevated, volcanic plateau, between 7,000 and 8,500 feet above sea level, and with an average elevation of about 8,000 feet. Surrounding it on the south, east, north, and northwest are mountain ranges with culminating peaks and ridges rising from 2,000 to 4,000 feet above the general level of the inclosed table-land.

The Yellowstone National Park was created by the act of March 1, 1872, and has an area of 2,142,720 acres. It is under the control and supervision of the Secretary of the Interior, but it is patrolled by two special troops of cavalry commanded by a line officer of the United States Army, assisted by a number of civilian scouts. Road and bridge construction and road sprinkling are under the direction of the Corps of Engineers of the Army.

THE GEYSERS.

There are three geyser basins, the Norris, the Lower, and the Upper Basins, all lying in the west central part of the park. The geysers exhibit a large variety of character and action. Some, like Old Faithful, spout at accurate intervals, longer or shorter. Others are irregular. Some burst upward with immense power. Others shoot streams at angles or bubble and foam in action.

Geysers are, roughly speaking, water volcanoes. They occur only at places where the internal heat of the earth approaches close to the

surface. Their action, for so many years unexplained, and even now regarded with wonder by so many, is simple. Water from the surface trickling through cracks in the rocks, or water from subterranean springs collecting in the bottom of the geyser's crater, down among the strata of intense heat, becomes itself intensely heated and gives off steam, which expands and forces upward the cooler water that lies above it.

It is then that the water at the surface of the geyser begins to bubble and give off clouds of steam, the sign to the watchers above that the geyser is about to play.

At last the water in the bottom reaches so great an expansion under continued heat that the less heated water above can no longer weigh it down, so it bursts upward with great violence, rising many feet in the air and continuing to play until practically all the water in the crater has been expelled. The water, cooled and falling back to the ground, again seeps through the surface to gather as before in the crater's depth, and in a greater or less time, according to difficulties in the way of its return, becomes reheated to the bursting point, when the geyser spouts again.

One may readily make a geyser in any laboratory with a test tube, a little water, and a Bunsen burner. A mimic geyser was made in the laboratory of the Department of the Interior in the winter of 1915 which when in action plays at regular intervals of a minute and a quarter. The water is heated in a metal bulb, and finds its way to the surface vent through a spiral rubber tube. When it plays the water rises 3 or 4 feet in height, varying according to the intensity of the heat applied at the bulb.

The water finds its way back by an iron pipe into the bulb, whence presently it again becomes heated and discharges itself.

OTHER HOT-WATER PHENOMENA.

Nearly the entire Yellowstone region, covering an area of about 3,300 square miles, is remarkable for its hot-water phenomena. The geysers are confined to three basins lying near each other in the middle west side of the park, but other hot-water manifestations occur at more widely separated points. Marvelously colored hot springs, mud volcanoes, and other strange phenomena are frequent. At Mammoth, at Norris, and at Thumb the hot water has brought to the surface quantities of white mineral deposits which build terraces of beautifully incrusted basins high up into the air, often engulfing trees of considerable size. Over the edges of these carved basins pours the hot water. Microscopic plants called algae grow on the edges and sides of these basins, painting them hues of red and pink and bluish gray, which in warm weather glow brilliantly, but

in cold weather almost disappear. At many other points lesser hot springs occur, introducing strange, almost uncanny, elements into wooded and otherwise quite normal landscapes.

A tour of these hot-water formations and spouting geysers is an experience never to be forgotten. Some of the geysers play at quite regular intervals. For many years the celebrated Old Faithful played with great regularity every 70 minutes, but during the summer of 1915 the interval lengthened to about 85 minutes, due, it is supposed, to the smaller snowfall and consequent lessened water supply of the preceding winter. Some of the largest geysers play at irregular intervals of days, weeks, or months. Some very small ones play every few minutes. Many bubbling hot springs, which throw water 2 or 3 feet into the air once or twice a minute, are really small, imperfectly formed geysers.

The hot-spring terraces are also a rather awe-inspiring spectacle when seen for the first time. The visitor may climb upon them and pick his way around among the steaming pools. In certain lights the surface of these pools appears vividly colored. The deeper hot pools are often intensely green. The incrustations are often beautifully crystallized. Clumps of grass, and even flowers, which have been submerged in the charged waters become exquisitely plated, as if with frosted silver.

GRAND CANYON OF THE YELLOWSTONE.

But the geysers and hot-water formations are by no means the only wonders in the Yellowstone. Indeed the entire park is a wonderland. The Grand Canyon of the Yellowstone affords a spectacle worthy of a national park were there no geysers. But you must not confuse your Grand Canyons, of which there are several in our wonderful western country. Of these, by far the largest and most impressive is the Grand Canyon of the Colorado River, in Arizona. That is the one always meant when people speak of visiting "the Grand Canyon," without designating a location. It is the giant of canyons.

The Grand Canyon of the Yellowstone is altogether different. Great though its size, it is much the smaller of the two. What makes it a scenic feature of the first order is its really marvelous coloring. It is the cameo of canyons.

Standing upon Inspiration Point, which pushes out almost to the center of the canyon, one seems to look almost vertically down upon the foaming Yellowstone River. To the south a waterfall twice the height of Niagara rushes seemingly out of the pine-clad hills and pours downward to be lost again in green. From that point 2 or 3 miles to where you stand and beneath you widens out the most glorious kaleidoscope of color you will ever see in nature. The steep

slopes, dropping on either side a thousand feet and more from the pine-topped levels above, are inconceivably carved and fretted by the frost and the erosion of the ages. Sometimes they lie in straight lines at easy angles, from which jut high rocky prominences. Sometimes they lie in huge hollows carved from the side walls. Here and there jagged rocky needles rise perpendicular for hundreds of feet like groups of gothic spires.

And the whole is colored as brokenly and vividly as the field of a kaleidoscope. The whole is streaked and spotted and stratified in every shade from the deepest orange to the faintest lemon; from deep crimson through all the brick shades to the softest pink; from black through all the grays and pearls to glistening white. The greens are furnished by the dark pines above, the lighter shades of growth caught here and there in soft masses on the gentler slopes and the foaming green of the plunging river so far below. The blues, ever changing, are found in the dome of the sky overhead.

It is a spectacle which one looks upon in silence.

There are several spots from which fine partial views may be had, but no person can say he has seen the canyon who has not stood upon Inspiration Point.

DUNRAVEN PASS AND TOWER FALLS.

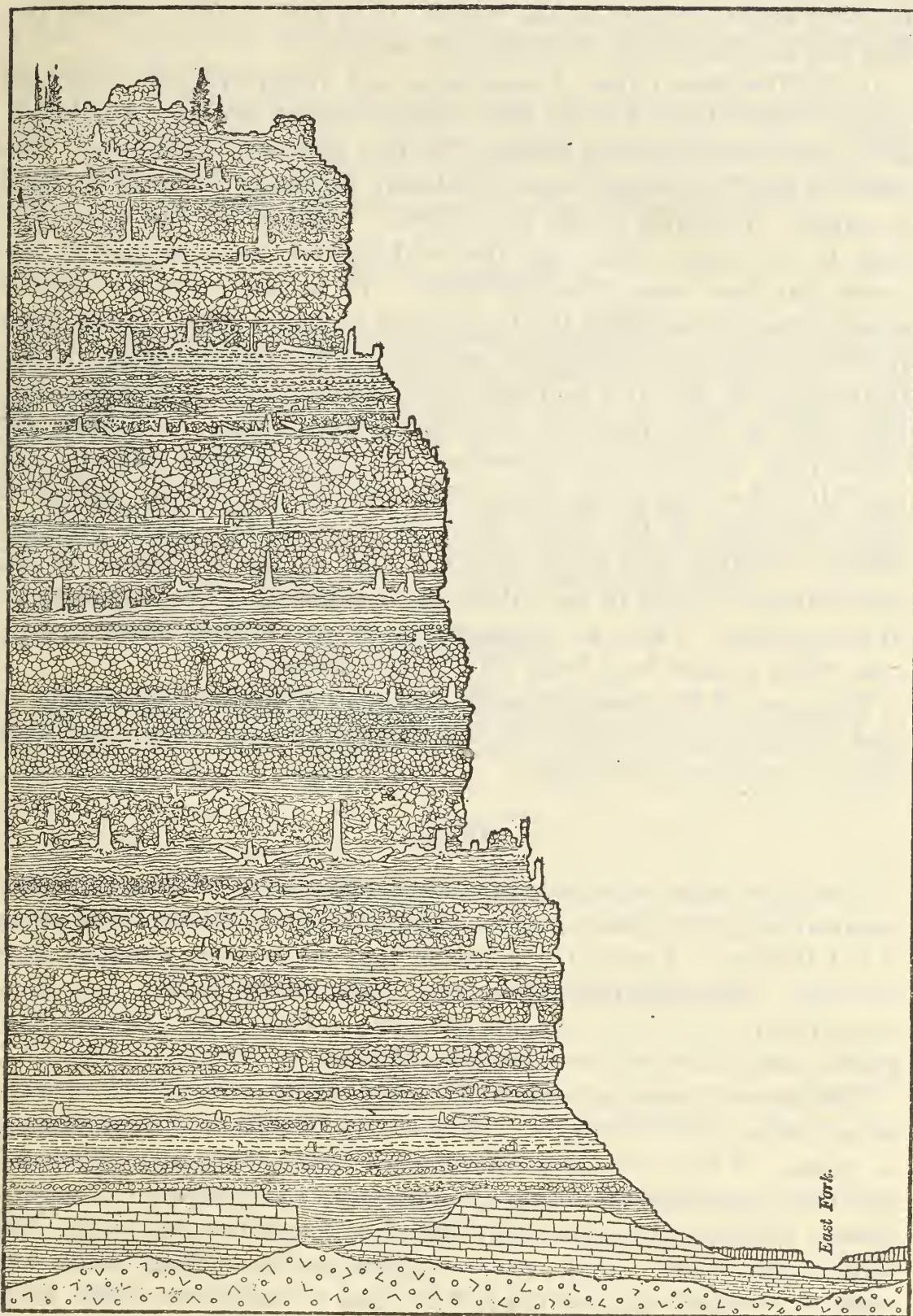
The visitor who from the canyon follows the road northward to Mammoth views some of the most inspiring scenery in America. The crossing of Dunraven Pass and the ascent of Mount Washburn are events which will linger long in vivid memory.

A few miles farther north, where the road again finds the shore of the Yellowstone River, scenery is again encountered at Tower Falls, which has few equals. The river's gorge at this point, the falls of Tower Creek, and the ramparts of rock far above the foaming Yellowstone are romantic to a high degree.

INTERESTING FOSSIL FORESTS.

The fossil forests of the Yellowstone National Park cover an extensive area in the northern portion of the park, being especially abundant along the west side of Lamar River for about 20 miles above its junction with the Yellowstone. Here the land rises rather abruptly to a height of approximately 2,000 feet above the valley floor. It is known locally as Specimen Ridge, and forms an approach to Amethyst Mountain. There is also a small fossil forest containing a number of standing trunks near Tower Falls, and near the eastern border of the park along Lamar River in the vicinity of Cache, Calfee, and Miller Creeks there are many more or less isolated trunks and stumps of fossil trees. Just outside the park, in

the Gallatin Mountains, between the Gallatin and Yellowstone Rivers, another petrified forest, said to cover more than 35,000 acres



IDEAL SECTION THROUGH 2,000 FEET OF BEDS OF SPECIMEN RIDGE, SHOWING SUCCESSION OF BURIED FOREST. AFTER HOLMES.

and to contain many wonderful upright trunks, has been recently discovered.

GREATEST WILD ANIMAL REFUGE.

The Yellowstone National Park is the largest and most successful wild animal refuge in the world. It is also, for this reason, the best and most accessible field for nature study.

Its 3,300 square miles of mountains and valleys remain nearly as nature made them, for the 200 miles of roads and the five hotels and many camps are as nothing in this immense wilderness. No tree has been cut except when absolutely necessary for road or trail or camp. No herds invade its valleys. Visitors for the most part keep to the beaten road, and the wild animals have learned in the years that they mean them no harm. To be sure they are seldom seen by the people filling the long trains of stages which travel from point to point daily during the season; but the quiet watcher on the trails may see deer and bear and elk and antelope to his heart's content, and he may even see mountain sheep, moose, and bison by journeying on foot or by horseback into their distant retreats. In the fall and spring when the crowds are absent, wild deer gather in great numbers at the hotel clearings to crop the grass, and the officers' children feed them flowers. One of the diversions at the road builders' camps in the wilderness is cultivating the acquaintance of the animals. There are photographs of men feeding sugar to bear cubs while mother bear looks idly on at a distance.

Thus one of the most interesting lessons from the Yellowstone is that wild animals are fearful and dangerous only when men treat them as game or as enemies.

BEARS.

Even the big grizzlies, which are generally believed to be ferocious, are proved by our national parks experience to be entirely inoffensive if not attacked. Even when attacked they make every possible effort to escape, and only turn upon men when finally driven into some place from which they can not get away. Then only are they dangerous, and then they are dangerous indeed.

The brown, cinnamon, and black bears, which, by the way, are the same species only differently colored—the blondes and brunettes, so to speak, of the same bear family—are quite different. They are playful, comparatively fearless, sometimes even friendly. They are greedy fellows, and steal camp supplies whenever they can. The large meat wagons which carry supplies to the distant hotels and camps overnight are equipped with iron covers, because the bears used to rip off the wooden tops during the resting times and run off

with sides of beef and mutton. One night several years ago teamsters drove three bears from the top of a single one of these big wagons.

This wild animal paradise contains 30,000 elk, several thousand moose, innumerable deer, many antelope, and a large and increasing herd of wild bison.

It is an excellent bird preserve also; more than 150 species live natural, undisturbed lives. Eagles abound among the crags. Wild geese and ducks are found in profusion. Many thousands of large white pelicans add to the picturesqueness of Yellowstone Lake.

TROUT FISHING.

Trout fishing in Yellowstone waters is unexcelled. All three of the great watersheds abound in trout which often attain large size. Yellowstone Lake is the home of large trout which are taken freely from boats, and the Yellowstone River and its tributaries yield excellent catches to the skillful angler.

The Madison River and its tributaries also abound in trout, and Michigan grayling are also to be caught in the northwestern streams. There is excellent fishing also in many of the lesser lakes.

RAILROADS.

The Northern Pacific Railway reaches the park on the north at Gardiner, Mont.; the Oregon Short Line Railroad reaches it on the west at Yellowstone, Mont.; and the Chicago, Burlington & Quincy Railroad reaches Cody, Wyo., from which the eastern entrance to the park may be reached by a drive of 63 miles. Descriptive matter and information regarding railroad rates may be obtained from the roads mentioned. Excursion tickets are sold during the park season.

TRANSPORTATION AND ACCOMMODATIONS.

General information may be obtained at the supervisor's office at Fort Yellowstone, Mammoth Hot Springs, Wyo., and complaints regarding service should be addressed to that officer. The tourist season extends from June 15 to September 15.

The transportation companies allow each passenger to take along 25 pounds of hand baggage without extra charge, which is usually quite sufficient unless considerable extra time is to be spent in the park, when arrangements can be made for having trunks forwarded. Arrangements can be made for caring for trunks left at entrance during tour of park, or for rechecking them for passengers who enter at one side of the park and go out by another route.

Heavy, strong clothing and heavy shoes (or light shoes and rubbers) are advisable. A raincoat or other light, serviceable wrap should be taken along. Dusters or heavy coats may be rented for park trips by those desiring them.

The post office in the park is called Yellowstone Park, Wyo., and is located 5 miles from the northern entrance. Those entering from the west should have their mail addressed to Yellowstone, Mont.

Telegrams may be sent from hotels to any part of the world.

General stores are located at Mammoth Hot Springs, Upper Geyser Basin, and outlet of Yellowstone Lake.

A special permit from the Secretary of the Interior is required to take moving pictures in the park.

Automobiles for pleasure purposes only are allowed in the park under appropriate regulations and after payment of a license fee. (See p. 68.) There are a number of hotels, permanent camps, and transportation lines operated in the park under contract with the Department of the Interior, and movable camps operate under yearly license issued by the department, but every person is at liberty to provide his own means of transportation, subject to the regulations printed on pp. 64 to 68. Persons starting on the tour of the park by way of the movable camps can not obtain accommodations at the hotels except in cases of sickness or under exceptional circumstances. Circulars and information may be obtained from the concessionaries whose addresses are given in this circular.

Tourists are advised to arrange in advance for their hotel or camp accommodations.

YELLOWSTONE PARK HOTEL CO.

The Yellowstone Park Hotel Co. maintains five hotels and two lunch stations in the park. The hotels are located at Mammoth Hot Springs, the Lower Geyser Basin, the Upper Geyser Basin, the outlet of Yellowstone Lake, and the Grand Canyon of the Yellowstone; the lunch stations are located at Norris Geyser Basin and the Thumb of the Lake. These hotels are operated in connection with the Yellowstone Park Transportation Co., whose coaches start from the northern entrance at Gardiner; the Yellowstone-Western Stage Co., whose coaches start from the western entrance at Yellowstone; and the Cody and Sylvan Pass Motor Co., whose automobiles start from Cody, Wyo., and carry passengers from that point to Yellowstone Lake, where they are provided for at the hotels or permanent camps.

The address of the hotel company is Yellowstone Park, Wyo., from June 15 to September 15, and Helena, Mont., thereafter. The authorized rates at the hotels are as follows:

Rates of the Yellowstone Park Hotel Co.

HOTEL CHARGES.

Board and lodging, American plan, regular accommodations (not including private bath), per day, each person-----	\$5.00	Shaving -----	\$0.25
Board and lodging, including private bath:		Hair cutting-----	.50
1 person in room, per day, each-----	7.00	Shampooing, men-----	.50
2 persons in room, per day, each -----	6.50	Dry shampoo, ladies-----	1.00
3 persons or more in room, per day, each -----	6.00	Wet shampoo, ladies-----	1.25
(It is expressly understood that where connecting rooms have access to private bath each room is to be considered as having private bath, unless one or more of the rooms are locked off from the bathroom.)		Scalp treatment -----	1.00
Meals or lodgings, part of a day, each -----	1.25	Face massage, men-----	.50
Meals served in rooms, extra, each -----	.50	Face massage, women-----	1.00
		Almond or clay pack-----	1.50
		Ladies' plain hair dressing-----	.50
		Ladies' fancy hair dressing, \$1.00 to 2.00	
		Singeing-----	.50
		Manicuring-----	\$0.75 to 1.00
		Chiropody in shop-----	1.50
		Chiropody in private rooms, in hotel, extra-----	.50
		Bath -----	.50
		Boot blacking-----	.10
		Billiards, per game-----	.25
		Billiards, per hour-----	.60

NEWS STANDS.

Guide books, periodicals, magazines, etc., at customary rates.

TELEGRAMS.

From all points in the United States (except Helena, Mont.) to Helena, Mont., at Western Union rates; Helena to Mammoth Hot Springs, Yellowstone Park Hotel Co., charge of 25 cents for first 10 words and 2 cents for each additional word; Helena to other points in Yellowstone National Park, charge of 50 cents for first 10 words and 3 cents for each additional word.

Messages exchanged between offices in the park at the rate of 25 cents for 10 words and 2 cents for each additional word.

TELEPHONE MESSAGES.

Use of telephone from or to any point in the park, not to exceed 1 minute, 25 cents. Each additional minute, 15 cents.

YELLOWSTONE PARK TRANSPORTATION CO.

The Yellowstone Park Transportation Co. operates a transportation line from Gardiner, Mont., the northern entrance, in connection with the hotels. It also connects with the automobile stage line of the Cody-Sylvan Pass Motor Co. at the Lake Hotel. The address of this company is Yellowstone Park, Wyo., between June 15 and September 16; thereafter, Helena, Mont. The authorized rates are as follows:

Transportation rates of the Yellowstone Park Transportation Co.

ROUND TRIPS FROM MAMMOTH.

Mammoth Hot Springs to—

Norris, Fountain, Upper Basin, and return, with stop-over privileges	\$18.00
Norris, Fountain, Upper Basin, and Grand Canyon, and return, with stop-over privileges	25.00
Round trip of park, via Norris, Fountain, Upper Basin, Thumb of Lake, Lake, Grand Canyon, and Norris, with stop-over privileges	25.00

TRIPS FROM AND TO LAKE IN CONNECTION WITH TRIPS VIA EASTERN (CODY) ENTRANCE.¹

Lake to—

Canyon, Norris, Fountain, Upper Basin, Thumb, and return to Lake	\$20.00
Canyon, Norris, Mammoth, Norris, Fountain, Upper Basin, Thumb, and return to Lake	26.50
Gardiner, via Canyon, Norris, Fountain, Upper Basin, Thumb, Lake, Canyon, Norris, and Mammoth	30.00
Gardiner, via Canyon, Norris, and Mammoth	14.00

Gardiner to—

Lake, via Mammoth, Norris, and Canyon	14.00
Mammoth, Norris, Fountain, Upper Basin, Thumb, Lake, Canyon, and return to Lake	26.50

SINGLE TRIPS.

Mammoth Hot Springs to—

Gardiner	\$1.50
Norris	4.00
Fountain	7.50
Upper Basin	9.00
Grand Canyon	7.50
Lake	12.50
Thumb	15.50

Norris to—

Upper Basin	5.00
Fountain	3.50
Grand Canyon	3.50
Lake	8.50

Fountain to—

Upper Basin	1.50
Norris	3.50
Grand Canyon	7.00
Mammoth Hot Springs	7.50

Upper Basin to—

Fountain	\$1.50
Norris	5.00
Grand Canyon	8.50
Mammoth Hot Springs	9.00

Lake to—

Grand Canyon	5.00
Norris	8.50
Mammoth Hot Springs	12.50
Upper Basin	13.50

Grand Canyon to—

Norris	3.50
Fountain	7.00
Upper Basin	8.50
Mammoth Hot Springs	7.50
Lake	5.00

¹ For auto service of Cody-Sylvan Pass Motor Co. between eastern boundary and Lake in conjunction herewith, add \$5 for one way and \$8 for two ways.

Trip in reverse direction not made for less than 3 fares. All one-way and round-trip excursion tickets reading via the Burlington Route from points east or south of Wyoming and Montana to Yellowstone National Park, or to Billings, Mont., or points west thereof, will be honored for transportation to the eastern boundary of the park via Cody without extra charge.

CARRIAGES, SADDLE HORSES, GUIDES, ETC.

Saddle horse:		Seats in conveyance for drive—
Per day -----	\$3.50	Continued.
First hour-----	1.00	To Inspiration Point at Canyon----- \$1.00
Each subsequent hour -----	.50	To Artists Point at Canyon----- 1.00
Carriages or surrey, capacity of 3 seats, at Mammoth, Canyon, Fountain, and Upper Basin:		Over formation at Mammoth Hot Springs----- 1.00
Per day -----	10.00	Guide, with horse, per day----- 5.00
First hour-----	4.00	Packer, with horse, per day----- 5.00
Each subsequent hour -----	2.00	Cook, with horse, per day----- 5.00
Seats in conveyance for drive:		Pack horses, each, per day----- 1.50
Over formation at Fountain -----	.50	Mount Washburn, round trip, from Grand Canyon----- 5.00
Over formation at Upper Geyser Basin -----	.50	

PARK TRIPS.

1 vehicle, seat 3, 2 horses and driver, per day-----	\$15.00
1 vehicle, seat 5, 4 horses and driver, per day-----	25.00
1 vehicle, seat 7, 4 horses and driver, per day-----	30.00
For each additional passenger carried, regular fare charged.	
Vehicle per diem rates one-half of above for all time over five days	
Driver boarded and horses stabled and fed by and at expense of company.	

YELLOWSTONE-WESTERN STAGE CO.

The Yellowstone-Western Stage Co. operates a transportation line from Yellowstone, Mont., the western entrance, in connection with the hotels. It also connects with the automobile stage line of the Cody-Sylvan Pass Motor Co. at the Lake Hotel. The stages run daily during the season. The address of this company is Yellowstone, Mont., between June 15 and September 15; thereafter St. Paul, Minn. The authorized rates are as follows:

Transportation rates of the Yellowstone-Western Stage Co.

TOUR TRIPS.

Yellowstone (western entrance) to—

Fountain, Upper Basin, and return (Tour 1)-----	\$8.00
Fountain, Upper Basin, Lake, Canyon, Norris, and return (Tour 2)-----	16.00
Fountain, Upper Basin, Lake, Canyon, Norris, Mammoth, and return (Tour 3)-----	20.00
Fountain, Upper Basin, Lake, Canyon, Norris, Mammoth, and Gardiner (Tour 4)-----	20.00
Trips from Lake in connection with trips from eastern entrance (Cody): ¹	
Lake, Canyon, Norris, to Yellowstone-----	12.00
Lake, Canyon, Norris, Upper Basin, to Yellowstone-----	14.50
Lake, Canyon, Norris, Mammoth, Norris, Upper Basin, to Yellowstone-----	18.50
Lake, Canyon, Norris, Fountain, Upper Basin, Thumb, Lake-----	20.00
Lake, Canyon, Norris, Mammoth, Norris, Fountain, Upper Basin, Thumb, and Lake-----	26.50

¹ For rate to Lake in connection with trips from eastern entrance, see footnote on p. 14.

STOP-OVER PRIVILEGES.

All passengers, except those having arranged for special conveyance, are granted stop-over privileges at any of the regular stopping places in the park without extra charge for transportation. Parties can retain their surrey or coach for their use on lay-over days at the following rates:

Five-passenger, two-horse surrey and driver, per day-----	\$8.00
Eight-passenger, four-horse coach and driver, per day-----	10.00
Eleven-passenger, four-horse coach and driver, per day-----	12.00

Any of the above vehicles can be secured for private parties by paying for the vacant space at authorized rates for tour trips.

PRIVATE PARTY—SPECIAL CONVEYANCE.

Three-passenger, two-horse surrey and driver, per day-----	\$12.00
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Parties holding railroad coupons for park tours will receive credit for same at their full value.

LOCAL TRIPS.

Yellowstone to Fountain Hotel, Lower Geyser Basin-----	\$4.00
Fountain to Old Faithful Inn, Upper Geyser Basin-----	1.25
Upper Basin to Thumb Lunch Station, Yellowstone Lake-----	3.25
Thumb to Colonial Hotel-----	2.50
Lake to Canyon Hotel, Grand Canyon-----	4.00
Canyon to Norris Lunch Station, Norris Geyser Basin-----	3.00
Norris to Yellowstone, western entrance-----	5.00
Norris to Mammoth Hotel, Mammoth Hot Springs-----	3.25
Mammoth to Gardiner, northern entrance-----	1.25

Parties requesting local trips in opposite direction from the regular stage route will consist of sufficient number to fill a minimum conveyance (three passengers) or pay for vacant space at above rates.

MOUNT WASHBURN, DUNRAVEN PASS, TOWER FALLS, AND MAMMOTH TRIPS.

These tours, on account of snow, are not available until early in July.

From Grand Canyon to summit Mount Washburn and return-----	\$4.00
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Only special equipment for this trip allowed.

From Grand Canyon via Dunraven Pass and Tower Falls to Mammoth-----	7.50
To passengers holding Yellowstone-Western stage transportation reading via Norris to Mammoth extra charge for trips from Canyon via Dunraven Pass, Tower Falls to Mammoth-----	3.50
To passengers holding Yellowstone-Western stage transportation for tour No. 2, not including side trip to Mammoth, extra charge for trips from Canyon via Dunraven, Tower Falls, and Mammoth to Norris-----	7.50
Minimum on above trips, three passengers.	

CARRIAGES, SADDLE HORSES, GUIDES, ETC.

Carriage or surrey, three seats, for use in vicinity of western entrance.

Fountain, Upper Basin, Lake, Canyon, Norris, or Mammoth:

Per day-----	\$8.00
First hour -----	3.00
Each subsequent hour-----	1.50

Seats in conveyance for drive:

Over formation at Fountain, each-----	\$0.50
Over formation at Upper Basin, each-----	.50
To Inspiration Point at Canyon, each-----	1.00
To Artists Point at Canyon, each-----	1.00
Saddle horse:	
Per day-----	3.00
First hour-----	1.00
Each subsequent hour-----	.50
Guide, with saddle horse, per day-----	4.00
Packer, with saddle horse, per day-----	4.00
Cook, with saddle horse, per day-----	4.00
Pack horse, each, per day-----	1.50

WYLIE PERMANENT CAMPING CO.

The Wylie Permanent Camping Co. maintains permanent camps in the park and operates a transportation line from Gardiner (northern entrance), Yellowstone (western entrance), and Camp Cody (eastern entrance). The camps are located at Swan Lake Basin, Riverside (western entrance), Upper Geyser Basin, outlet of Yellowstone Lake, Grand Canyon of the Yellowstone, Camp Cody (eastern entrance), and Tower Falls. In addition, lunch stations are maintained at the Gibbon Geyser Basin and at Thumb of Yellowstone Lake. Stages run daily during the season. The address of this company is Livingston, Mont. The authorized rates are as follows:

Rates for services rendered and accommodations furnished by the Wylie Permanent Camping Co.

TOURS AND TRIPS.

Each of the following trips and tours includes stage transportation, board, and lodging for each person, and those numbered 50 to 59, both inclusive, include automobile transportation between the eastern entrance and the Lake as furnished through the Cody-Sylvan Pass Motor Co.

From Gardiner, Mont. (north entrance):

(1) Six days (entrance, Gardiner; exit, Gardiner), via Mammoth Hot Springs, Swan Lake Camp, Norris Geyser Basin, Gibbon Lunch Station, Upper Geyser Basin, Thumb Lunch Station, Yellowstone Lake, Grand Canyon, Swan Lake Camp, Mammoth Hot Springs, and Gardiner-----	\$39.00
(1-A) Five days (entrance, Gardiner; exit, Gardiner), same as No. 1, omitting the day at the Upper Geyser Basin-----	36.00
(2) Six days (entrance, Gardiner; exit, Yellowstone), via Mammoth Hot Springs, Swan Lake Camp, Norris Geyser Basin, Gibbon Lunch Station, Upper Geyser Basin, Thumb Lunch Station, Yellowstone Lake, Grand Canyon, Norris Geyser Basin, Gibbon Lunch Station, and Yellowstone-----	39.50
(20) Four days (entrance, Gardiner; exit, Gardiner) via Mammoth Hot Springs, Swan Lake Camp, Norris Geyser Basin, Gibbon Lunch Station, Upper Geyser Basin, Gibbon Lunch Station, Norris Geyser Basin, Swan Lake Camp, Mammoth Hot Springs, and Gardiner-----	29.00

From Gardiner, Mont. (north entrance)—Continued.

(22) Three days (entrance, Gardiner; exit, Gardiner), via Mammoth Hot Springs, Swan Lake Camp, Norris Geyser Basin, Grand Canyon, Norris Geyser Basin, Swan Lake Camp, Mammoth Hot Springs, and Gardiner-----	\$21.00
(23) Two days (entrance, Gardiner; exit, Yellowstone), via Mammoth Hot Springs, Swan Lake Camp, Norris Geyser Basin, Gibbon Lunch Station, and Yellowstone-----	14.00
(24) Two days (entrance, Gardiner; exit, Gardiner), via Mammoth Hot Springs, Swan Lake Camp, Norris Geyser Basin, Swan Lake Camp, Mammoth Hot Springs, and Gardiner-----	13.00
(25) One-half day (entrance, Gardiner; exit, Gardiner), via Mammoth Hot Springs, Swan Lake Camp, Mammoth Hot Springs, and Gardiner-----	5.00

From and to East Park Boundary (Cody entrance):¹

(50) Seven days from East Park Boundary via Yellowstone Lake, Grand Canyon, Swan Lake Camp, Mammoth Hot Springs, Swan Lake Camp, Norris Geyser Basin, Gibbon Lunch Station, Upper Geyser Basin, Thumb Lunch Station, Yellowstone Lake to East Boundary-----	45.00
(51) Six days from East Park Boundary via Yellowstone Lake, Grand Canyon, Norris Geyser Basin, Gibbon Lunch Station, Upper Geyser Basin, Thumb Lunch Station, Yellowstone Lake to East Boundary -----	37.00
(52) Seven days from East Park Boundary via Yellowstone Lake, Grand Canyon, Norris Geyser Basin, Gibbon Lunch Station, Upper Geyser Basin, Thumb Lunch Station, Yellowstone Lake, Grand Canyon, Swan Lake Camp, Mammoth Hot Springs to Gardiner -----	47.00
(53) Five days from East Park Boundary via Yellowstone Lake, Grand Canyon, Swan Lake Camp, Mammoth Hot Springs, Swan Lake Camp, Norris Geyser Basin, Gibbon Lunch Station, Upper Geyser Basin to Yellowstone-----	35.00
(54) Four days from East Park Boundary via Yellowstone Lake, Grand Canyon, Norris Geyser Basin, Gibbon Lunch Station, Upper Geyser Basin to Yellowstone-----	29.00
(55) Three days from East Park Boundary via Yellowstone Lake, Grand Canyon, Norris Geyser Basin, Swan Lake Camp, Mammoth Hot Springs to Gardiner-----	20.50
(56) Three days from East Park Boundary via Yellowstone Lake, Grand Canyon, Norris Geyser Basin, Gibbon Lunch Station to Yellowstone-----	20.50
(57) Six days from Gardiner via Mammoth, Swan Lake Camp, Canyon, Norris, Gibbon Lunch Station, Upper Basin, Thumb, Lake to East Park Boundary-----	37.50
(58) Five days from Gardiner via Mammoth, Swan Lake Camp, Norris, Gibbon Lunch Station, Upper Basin, Thumb, Lake to East Park Boundary-----	30.00
(59) Three days from Yellowstone via Gibbon Lunch Station, Upper Basin, Thumb, Lake to East Park Boundary-----	20.00

¹All one-way and round-trip excursion tickets reading via the Burlington Route from points east or south of Wyoming and Montana to Yellowstone National Park, or to Billings, Mont., or points west thereof, will be honored for transportation to the eastern boundary of the park via Cody without extra charge.

From Yellowstone, Mont. (west entrance) :

(4)	Six days (entrance, Yellowstone; exit, Yellowstone), via Yellowstone Camp, Gibbon Lunch Station, Upper Geyser Basin, Thumb Lunch Station, Yellowstone Lake, Grand Canyon, Swan Lake Camp, Mammoth Hot Springs, Swan Lake Camp, Norris, Gibbon Lunch Station, and Yellowstone-----	\$40.00
(4-A)	Five days (entrance, Yellowstone; exit, Yellowstone), same as No. 4, omitting the day at Upper Geyser Basin-----	37.00
(5)	Five days (entrance, Yellowstone; exit, Yellowstone), via Yellowstone Camp, Gibbon Lunch Station, Upper Geyser Basin, Thumb Lunch Station, Yellowstone Lake, Grand Canyon, Norris, Gibbon Lunch Station, and Yellowstone-----	35.00
(5-A)	Four days (entrance, Yellowstone; exit, Yellowstone), same as No. 5, omitting the day at Upper Geyser Basin-----	32.00
(6)	Six days (entrance, Yellowstone; exit, Gardiner), via Yellowstone Camp, Gibbon Lunch Station, Upper Geyser Basin, Thumb Lunch Station, Yellowstone Lake, Grand Canyon, Norris Geyser Basin, Swan Lake Camp, Mammoth Hot Springs, and Gardiner-----	39.50
(6-A)	Four days (entrance, Yellowstone; exit, Gardiner), via Yellowstone Camp, Gibbon Lunch Station, Upper Geyser Basin, Thumb Lunch Station, Yellowstone Lake, Grand Canyon, Norris Geyser Basin, Swan Lake Camp, Mammoth Hot Springs, and Gardiner-----	32.00
(26)	Three days (entrance, Yellowstone; exit, Yellowstone), via Gibbon Lunch Station, Norris Geyser Basin, Grand Canyon, Norris, Gibbon Lunch Station, and Yellowstone-----	22.00
(28)	Two days (entrance, Yellowstone; exit, Yellowstone), via Gibbon Lunch Station, Upper Geyser Basin, Gibbon Lunch Station, and Yellowstone-----	14.00
(29)	Two days (entrance, Yellowstone; exit, Gardiner), via Gibbon Lunch Station, Norris Geyser Basin, Swan Lake Camp, Mammoth Hot Springs, and Gardiner-----	14.00

Diverse route, Canyon to Mammoth, via Roosevelt Camp and Tower Falls: Two dollars extra for transportation.

This diverse route is available only when Roosevelt Camp is open; the trip will not be made with less than two persons.

Children's rates: Children under 10 years of age, half rates.

MISCELLANEOUS CHARGES.

Camp charges:

Additional time for holders of tickets or transients, per day, board and lodging, each person-----	\$3.00
Single meals, each person-----	.75
Lodging, each person-----	1.00
Sulphur baths at Camp Roosevelt and Upper Geyser Basin, and baths elsewhere, each person-----	.50
Feeding horses, oats or hay, each feed, each horse-----	.50

Miscellaneous transportation rates:

Wagon (three seats), two horses and driver, when retained overtime (additional to \$3 for board and lodging), each day-----	5.00
Concord coach (four seats), four horses and driver, when retained during overtime (additional to \$3 for board and lodging), each day-----	8.00

Miscellaneous transportation rates—Continued.

Saddle horses, each day, each horse-----	\$3.00
Trunk, cartage between Yellowstone Station and Yellowstone and between Gardiner Station and Wylie Hotel, each trunk, round trip-----	.50
Bicycles carried between stations, each bicycle-----	.50

Local transportation rates:

Gardiner to Swan Lake-----	3.00
Swan Lake to Upper Geyser Basin-----	5.00
Upper Geyser Basin to Thumb of Lake-----	4.00
Thumb to Lake Outlet (Lake Camp)-----	3.00
Lake Camp to Canyon-----	3.00
Canyon to Swan Lake-----	4.00
Canyon to Norris-----	2.00
Norris to Swan Lake-----	2.00
Norris to Mammoth Hot Springs-----	3.50
Gardiner to Mammoth Hot Springs-----	1.00
Yellowstone Camp to Gibbon Camp-----	3.00
Gibbon Camp to Norris-----	2.00
Gibbon Camp to Upper Geyser Basin-----	3.00
Yellowstone Camp to Upper Geyser Basin-----	5.00
Gardiner to Camp Roosevelt-----	4.00
Canyon to Camp Roosevelt via Dunraven Pass-----	4.00
Canyon to Mount Washburn and return-----	4.00

SHAW & POWELL CAMPING CO.

The Shaw & Powell Camping Co. maintains permanent camps and operates a transportation line from Gardiner (northern entrance) and Yellowstone (western entrance). The camps are located at the following points: Near Obsidian Bridge, near Gibbon Falls, near Fountain Soldier Station, near Old Faithful Geyser, at the west Thumb of the Lake, near outlet of Yellowstone Lake, at Grand Canyon, and near Tower Falls. Stages run daily through the season. The address of this company is Livingston, Mont.

*Schedule of rates for services rendered and accommodations furnished by
Shaw & Powell Camping Co.*

TOURS AND TRIPS.

Each of the following trips and tours includes stage transportation, board, and lodging for each person:

From Gardiner (northern entrance):

1. Five and one-half day trip-----	\$35.00
2. To Willow Park Camp (overnight) and return-----	8.50
3. To Norris Geyser Basin and return-----	15.00
4. To Canyon Camp and return-----	20.00
5. To Yellowstone direct-----	15.00

From Yellowstone (western entrance):

1. Five-day trip via Lower and Upper Geyser Basins, Lake, Canyon, Norris, Mammoth Hot Springs, Willow Park, and return-----	35.00
2. Four-day trip via Lower and Upper Geyser Basins, Lake, Canyon, Norris, Gibbon, and return-----	30.00
3. To Old Faithful Camp and return-----	15.00

From Cody (eastern entrance)¹:

Automobiles will leave Cody at approximately 8.30 a. m., arriving at boundary of the park, Cody entrance, at approximately 12.30 p. m.; leave boundary at approximately 1.30 p. m., arriving at Lake Camp at approximately 5.30 p. m. At this point Shaw and Powell patrons will be transferred to Shaw and Powell vehicles and will travel upon their regular schedule of service from northern and western entrances.

The schedule below contemplates service only from the entrance of the park on westbound traffic and to the entrance of the park on eastbound traffic. The service between Yellowstone Lake Camp and East Boundary, both ways, to be by automobile furnished through the Cody-Sylvan Pass Motor Co.

(50) Seven days (Cody entrance to Cody entrance, including Mammoth), via Lake, Canyon, Willow Park, Mammoth, Nez Perce, Old Faithful, Lake, Cody entrance-----	\$45.00
(51) Six days (Cody entrance to Cody entrance, omitting Mammoth), via Lake, Canyon, Nez Perce by Norris, Old Faithful, Lake, Cody entrance-----	37.00
(52) Seven days (Cody entrance around park and out at Gardiner), via Lake, Canyon, Nez Perce, Old Faithful, Lake, Canyon, Willow Park, Mammoth, Gardiner-----	47.00
(53) Five days (Cody entrance around park, including Mammoth, out at Yellowstone), via Lake, Canyon, Willow Park, Mammoth, Old Faithful, Yellowstone-----	35.00
(54) Four days (Cody entrance to Yellowstone, omitting Willow Park and Mammoth), via Lake, Canyon, Old Faithful, Yellowstone-----	29.00
(55) Three days (Cody entrance to Gardiner), via Lake, Canyon, Willow Park, Mammoth, Gardiner-----	20.50
(56) Three days (Cody entrance to Yellowstone, omitting Mammoth and Geyser Basins), via Lake, Canyon, Yellowstone-----	20.50
(57) Six days (Gardiner to Cody, including Canyon, Geyser Basins and Lake), via Willow Park, Canyon, Nez Perce, Old Faithful, Lake, Cody entrance-----	37.50
(58) Five days (Gardiner to Cody entrance, omitting Canyon), via Willow Park, Nez Perce, Old Faithful, Lake, Cody entrance-----	30.00
(59) Three days (Yellowstone to Cody entrance, including Upper Basin and Lake), via Old Faithful, Lake, Cody entrance-----	20.00

Parties may enter at one entrance and leave at the other without extra charge.

Children under 10 years, one-half rate.

Trunks of tourists, station to hotel and return, free.

From Grand Canyon to Mount Washburn and return-----	\$5.00
From Grand Canyon via Tower Falls and out at Gardiner, staying one night at Tower Falls-----	7.00
From Grand Canyon via Tower Falls and out at Yellowstone, with one night at Tower Falls for those holding five-day tickets, and making one day additional, extra charge-----	7.00
For tourists holding but a four-day ticket, this trip via Tower Falls and out at Yellowstone, making two days additional, extra charge-----	12.00

¹ See footnote on p. 18.

YELLOWSTONE NATIONAL PARK.

LOCAL TRANSPORTATION RATES.

(a) Gardiner to Willow Park Camp-----	\$2.75
(b) Willow Park Camp to Gibbon Lunch Station-----	3.50
(c) Gibbon Lunch Station to Nez Perce Camp-----	1.50
(d) Nez Perce Camp to Old Faithful Camp-----	1.75
(e) Old Faithful Camp to Thumb Lunch Station-----	3.00
(f) Thumb Lunch Station to Lake Camp-----	2.50
(g) Lake Camp to Canyon Camp-----	2.50
(h) Canyon Camp to Norris Geyser Basin-----	1.75
(i) Norris Geyser Basin to Willow Park Camp-----	2.00
(j) Willow Park Camp to Gardiner-----	2.75
(k) Yellowstone to Nez Perce Camp-----	3.00
(l) Gibbon Lunch Station to Yellowstone-----	3.00

MISCELLANEOUS.

Saddle horses, per day, each-----	\$3.00
Board and lodging for detached persons, per day, each-----	3.00
Lodging, per person-----	1.00
Single meal-----	.75
Feeding horses oats, per feed-----	.50
Feeding horses hay, per feed-----	.50
Extra stay at camps, per day-----	3.00
Extra stay at camps, per day, with team-----	5.00

CODY-SYLVAN PASS MOTOR CO.

The Cody-Sylvan Pass Motor Co. operates automobile stages between Cody and Lake Hotel. The address of this company is St. Paul, Minn. Stages run beginning July 1. The authorized rates are as follows.

Authorized local rates of Cody-Sylvan Pass Motor Co.

From Cody, Wyo., to the Lake Hotel-----	\$12.50
From Yellowstone Lake to Cody, Wyo.-----	12.50
Round-trip rate, Cody to Yellowstone Lake and return, or Yellowstone Lake to Cody and return-----	22.50

BATHHOUSE.

Henry J. Brothers, of Salt Lake City, Utah, under contract with the department operates a pool bathhouse at Upper Geyser Basin. Rates, 50 cents in large pool, \$1 in private pool.

PERSONALLY CONDUCTED CAMPING PARTIES.

The persons named below are licensed to conduct camping parties through the park. They do not furnish daily service, but make trips on certain dates or special trips as arranged. Additional information may be obtained by addressing the licensees.

Authorized rates of E. C. Brown and Simon Snyder.

[Address, Valley, Wyo.]

Regular 10 to 45 day trips, price for each member of party, including transportation, saddle horse, and board and lodging in camp, per day per person-----	\$8.00
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Authorized rates of Joe Clause.

[Address, Yellowstone, Wyo.]

Regular 5-day trip, price for each member of party, including transportation and board and lodging in camp-----	\$25.00
Additional per day for stop-overs at points of interest, for each member of party -----	2.50
Extra charge for saddle horses, per day-----	1.00

Authorized rates of Howard Eaton.

[Address, Wolf, Wyo.]

Regular 20-day trip, price for each member of party, including transportation and board and lodging in camp, total for trip-----	\$150.00
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Authorized rates of W. N. and O. M. Hefferlin.

[Address, Livingston, Mont.]

From Gardiner (northern entrance) :

5½-day trip via Norris, Lower and Upper Geyser Basin, Lake, Canyon, Norris, and return-----	\$30.00
Exit via Yellowstone, additional-----	2.50
4-day trip to Old Faithful Camp and return-----	25.00
Exit via Yellowstone, additional-----	2.50
3-day trip to Grand Canyon via Norris and return-----	20.00
To Norris and return-----	14.00
To Mammoth Hot Springs and vicinity and return-----	5.00

From Yellowstone (western entrance) :

4-day trip via Lower and Upper Geyser Basin, Lake, Canyon, Norris, and return-----	26.50
Exit via Gardiner, additional-----	2.50
5-day trip, same as above, including Mammoth Hot Springs-----	33.00
To Grand Canyon via Norris and return (limited to 4 or more people)-----	21.00
To Old Faithful Camp and return (limited to 4 or more)-----	14.00

Miscellaneous :

From Gardiner to Yellowstone via Norris-----	14.00
From Yellowstone to Gardiner via Norris (limited to 4 people)-----	14.00
Extra stay at camps, per day-----	3.00
Extra stay at camps with team per day (limited to 4 people from Yellowstone)-----	5.00
Lodging, per person-----	1.00
Meals, per person per meal-----	.75
Children under 10, half fare on all trips.	
Feeding horses, oats, per feed-----	.50
Saddle horses (each) per day-----	3.00

Authorized rates of W. H. Jordan.

[Address, Cody, Wyo.]

Regular 14-day trip, price for each member of party, including transportation and board and lodging in camp, per day-----	\$5.00
Additional per day for stop-overs at points of interest, for each member of party-----	5.00
Extra charge for saddle horses, per day-----	1.50

Authorized rates of S. E. and E. J. Larson.

[Address, Gardiner, Mont.]

Regular 6-day trip, price for each member of party, including transportation and board and lodging in camp-----	\$30.00
Additional per day for stop-overs at points of interest, for each member of party-----	5.00
Extra charge for saddle horses, per day-----	2.00
1-day trip to Mammoth Hot Spring and Golden Gate and vicinity, per person per day-----	5.00

Authorized rates of H. Mullendore.

[Address, Cody, Wyo.]

Regular 14-day trip, price for each member of party, including transportation and board and lodging in camp-----	\$5.00
Additional per day for stop-overs at points of interest, for each member of party-----	5.00
Extra charge for saddle horses, per day-----	2.00

Authorized rates of Oscar O. Roseborough and H. P. Grant.

[Address, Gardiner, Mont.]

Regular 6-day trips, price for each member of party, including transportation and board and lodging in camp-----	\$30.00
Additional per day for stop-overs at points of interest, for each member of party-----	3.00
7-day trip, via Tower Falls from Canyon, each member-----	35.00
3-day trip to Grand Canyon and return, from Gardiner-----	20.00

Authorized rates of B. D. Sheffield.

[Address, Moran, Wyo.]

Does not camp inside of the park, but takes tourists to hotels while en route to hunting lodge at Moran, Wyo., by special arrangement, paying usual hotel rates for them.

Regular trips, price for each member of party, including transportation and board and lodging at hotels (ordinary accommodations), one in party, per day-----	\$15.00
For each member of party, if two in party, per day-----	12.50
Same, with three or more in party, per day-----	10.00
Extra charge for saddle horses, per day-----	5.00

Authorized rates of Will B. Shore and George T. Hopkins.
 [Address, Cody, Wyo.]

Regular 16-day trip, price for each member of party, including transportation and board and lodging in camp-----	\$80.00
Extra charge for saddle horses, per day-----	1.00

Authorized rates of Bert Stewart and John McPherson.

[Address, Gardiner, Mont.]

Regular 6-day trips, price for each member of party, including transportation and board and lodging in camp-----	\$30.00
Additional, per day, for stop-overs at points of interest, for each member of party-----	5.00
To Cook City via Tower Falls Station and Soda Butte:	
Rates for team and driver to Cook City, per day-----	7.50
Rates for team and driver to Yellowstone, per day-----	7.50
Short one-day trips from Gardiner to Mammoth Hot Springs, Golden Gate, and vicinity:	
Regular trips, one day, price for transportation, rig carrying two or three people-----	8.00
For same trip, larger rig, for each passenger-----	2.00

BOAT SERVICE ON YELLOWSTONE LAKE.

The Yellowstone Park Boat Co., under contract with the department, maintains and operates power boats and rowboats on Yellowstone Lake. The service on this lake is not a part of the regular transportation of the park and an extra charge is made, as shown in the schedule below. Under the regulations of the department no power boats are permitted to be operated on this lake except those that have passed the inspection of the United States Steamboat-Inspection Service of the Department of Commerce.

Rates of the Yellowstone Park Boat Co.

POWER BOATS.

Lake Hotel to West Arm (Thumb) of Yellowstone Lake, or reverse-----	\$2.50
Excursions to Southeast Arm of lake, per individual (this trip not made for less than \$20)-----	2.00
33-foot cabin cruiser, with crew, per day-----	35.00
For two or more days, per day-----	25.00
16-foot and 18-foot launches:	
Per day-----	15.00
For first hour-----	3.00
For each additional hour-----	2.00
Over six hours, day rates charged.	

ROWBOATS.

Per day-----	2.00
For first hour-----	.50
For each additional hour-----	.25
Over six hours, day rates charged.	

Oarsmen:

Per hour	\$0.50
Per day	4.00

Boat rental and services of oarsmen and motor boat and attendants' time commences from the moment of leaving the dock until return.

FISHING TACKLE.

Outfit, consisting of rod, reel, line, and landing net, per day	\$0.50
Same free to each individual hiring launches. Charges may be made for broken rods or lost outfit at regular price.	
Flies sold from 5 to 25 cents, according to quality.	
Fishing accessories sold at regular prices, according to quality.	

PRINCIPAL POINTS OF INTEREST.

GARDINER (NORTHERN ENTRANCE) TO MAMMOTH HOT SPRINGS.¹

Gardiner (altitude 5,300 feet) is the terminus of the branch line of the Northern Pacific Railroad and is immediately north of the northern boundary line of the park. Here is located the entrance arch of basaltic rock. The road in general use is east of the arch, near the soldier station. All camping parties are required to register at *each of the soldier stations* passed in their trip around the park. Guides, horses, outfits, and supplies can be secured here. There is a fair camping site near the town. As camping is not allowed between Gardiner and Mammoth Hot Springs, the next camping place is 1 mile south of Mammoth Hot Springs. The distance from Gardiner to Mammoth Hot Springs is 5 miles; the road lies along Gardiner River.

Electric Peak is due west of the railroad station at Gardiner and is easily recognized by its sharp point and general reddish color. It is the highest mountain in the park (11,100 feet) and one of the peaks of the Gallatin Range. It is so named by reason of magnetic disturbances noted by the first party to ascend this mountain with surveying instruments.

Sepulcher Mountain is east of Electric Peak and southwest of Gardiner. It can be easily ascended by crossing Snow Pass, which is reached by trail, 1½ miles south of Mammoth Hot Springs, and turning to the northwest as the trail enters Swan Lake Basin. It has an elevation of 9,500 feet, and from its summit is obtained a magnificent view to the south and east. It is named from rocks on its eastern face, which suggest the head and foot stones of a grave.

¹ The road from Yellowstone, Mont (western entrance), connects with the belt line road at a point 10 miles south of Norris and at Firehole Cascades, 14½ miles south of Norris. (See p. 36.) The route from the western entrance to the belt road is given on page 52.

The road from the southern entrance joins the belt line road at Thumb. (See p. 46.) The route from the southern entrance is given on page 53.

The road from Cody via eastern entrance joins the belt line road at a point about 2 miles north of Lake Hotel. (See p. 48.) The route from Cody is given on page 52.

Gardiner Canyon, entered 1 mile from Gardiner, is a deep, narrow gorge between walls of gray sandstone on the east and compact volcanic breccia on the west. *Eagle Nest Rock* on the east side has been a nesting place for ospreys from time immemorial.

Through *Boiling River*, 4 miles from Gardiner, a large volume of warm water from the Mammoth Hot Springs flows directly into Gardiner River. The water in this river is not boiling hot, as inferred by the name, but varies in temperature due to variations in the volume of underground steam, the highest temperature recorded being 136° F. in 1896.

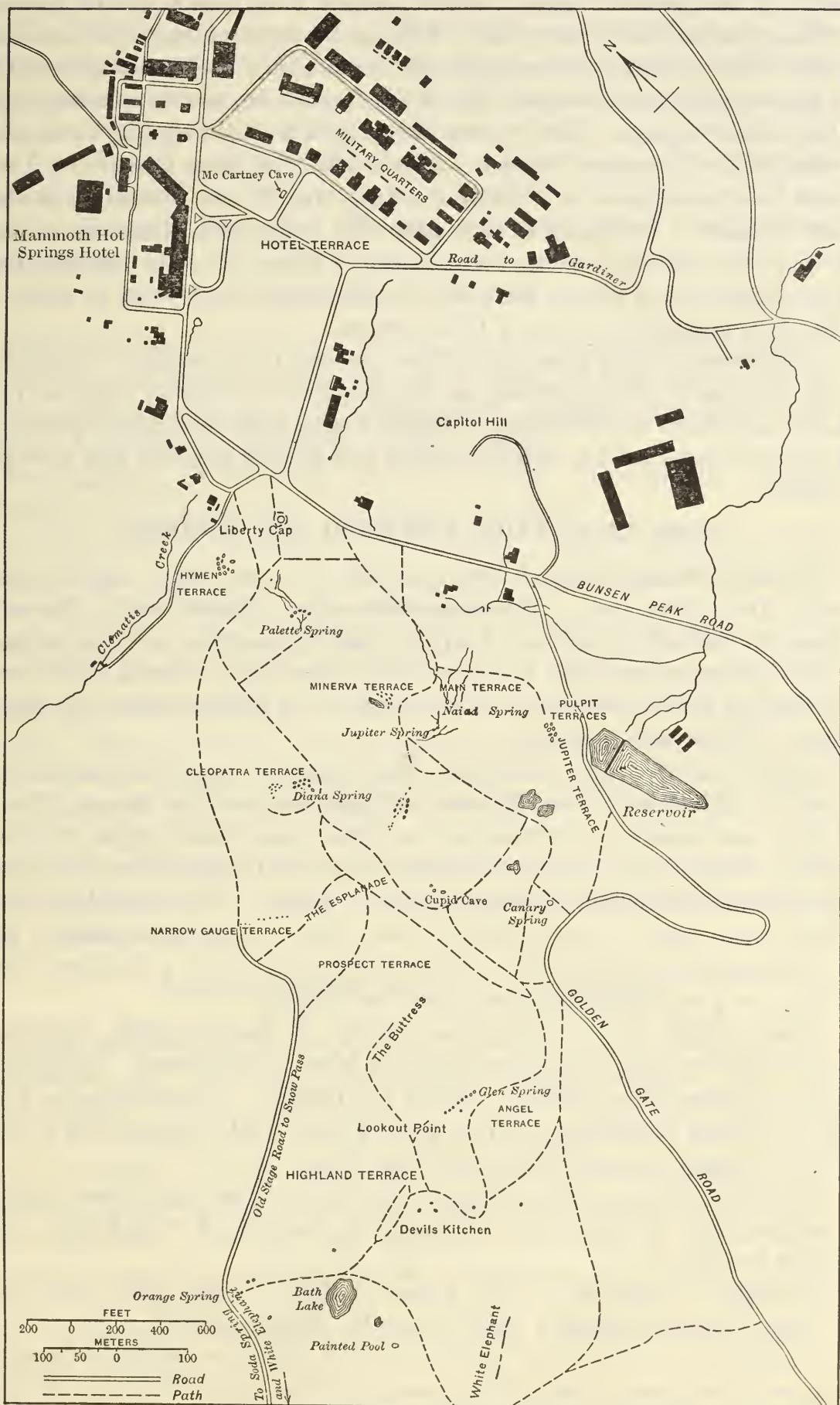
From Boiling River the road ascends 600 feet in 1 mile to *Mammoth Hot Springs* (6,264 feet), the administrative and social headquarters of the park. Here are located Fort Yellowstone (the headquarters for the cavalry stationed in the park), United States commissioner's office, post office, and stores where supplies, curios, etc., may be purchased. A small herd of tame buffalo is kept 1 mile south of Mammoth Hot Springs on a branch road. There is a good camping place near the buffalo corral, and a special camping ground is provided near the Mammoth Hot Springs for campers traveling in private automobiles; no camping is permitted along Glen Creek nor in Swan Lake Basin, so the next camp site is 6 miles south of Mammoth Hot Springs on the road to Norris. The main attraction of this locality are the large and beautiful hot springs and terraces.

THE TERRACES AT MAMMOTH HOT SPRINGS.

In seeing the springs and terraces the direction here given is usually followed, although the trip may be reversed if desired. The path starts at *Liberty Cap*, an extinct hot-spring cone, now standing 40 feet above the surrounding formation. It is similar in all respects to the travertine deposits which make up the terraces and is the result of processes of erosion. At Mammoth Hot Springs the deposits from the hot water consist almost exclusively of carbonate of lime and are essentially different from those of the geyser basins, the latter being made up mainly of siliceous sinter. Under favorable conditions this carbonate of lime at Mammoth Hot Springs may deposit rapidly, as is shown by the thin film of travertine found coating all objects exposed in waters issuing directly from the springs. Small articles left for five or six days in the water frequently show a deposit one-sixteenth of an inch in thickness. There are some other minerals in these waters, but it is true here as at all other points that the most of the coloring is due to a low form of vegetable life that will grow in hot water up to a temperature of 180° F.

From Liberty Cap the path runs southwest for 400 feet and then turns to the south, ascending the first bend to *Minerva* and *Mound Terraces*. At Mound Terrace there is a side path to *Pulpit*

Terrace, which passes around Mound Terrace to the left. Two hundred feet beyond Minerva Terrace the path climbs the next bench at a very steep angle and continues southeast to the main *Jupiter Spring*, which is at present the largest spring on this formation. Being large and safely approached on the south side, this spring gives the tourist his best point to view the general features of these springs. The water appears to be boiling, but in reality is not quite hot enough. At many of the springs upon the broad terraces the water presents the appearance of boiling springs, when as a matter of fact the temperature is far below the boiling point. The violent agitation is simply due to the free escape of carbonic-acid gas at the surface. The phenomena may be observed at a number of localities throughout the park. The boiling point on the terraces is 200° F. The blue color of the water here and elsewhere in the park is not a mineral color nor a reflection from the sky, but is the natural color of clear water in large bodies. The water escaping from Jupiter Springs rushes down the hillside to the east, forming the incomparably beautiful *Jupiter Terrace*. From Jupiter Spring the path leads in a general southwest direction past *Canary Spring*, now dry, across an amphitheater of old formation, dotted with small pine trees. At the southern end of this amphitheater the path passes around a shoulder and to the left lies *Angel Terrace*. *Glen Spring*, which is on the right, is now nearly or quite dry. The tourist passes up the next bench around Angel Terrace, keeping this terrace on his left until a shoulder of formation on the right is passed. The path then turns sharp to the right up a narrow gulch ascending the next bench. At the top of this bench at the left is the *Devils Kitchen*, which may be descended by means of the ladders as far as the tourist finds comfortable. The tourist should note that this is the only opening it is safe to descend, as at all the other caves and openings carbonic-acid gas is present to a dangerous extent. Indeed, many birds and small animals fall victims annually to the gas in these openings, although the principal ones have been covered by wire netting. A side path leads from Devils Kitchen to *Lookout Point* and the *Buttress*, two prominent points on the old inactive *Highland Terrace*, from which the view is extensive. The main path then descends a short distance to the west to *Bath Lake*, where the bathing is very fine in the clear luke-warm water discharged into this lake from a hot spring on its southern shore. The path then runs over a slight rise to the northwest and down to *Orange Spring*, a very large prominent formation sometimes called *Orange Geyser*, although not possessing any of the characteristics of a geyser. Here the path merges with an old carriage road. Should the tourist be sufficiently interested, he may follow this road in a southerly direction to *Soda Spring*, *Stygian Cave*, and the *White Elephant*. Otherwise the road leads north-



SKETCH OF MAP OF MAMMOTH HOT SPRINGS.

easterly to *Narrow Gauge Terrace*, which has become active within recent years at its western end. South of *Narrow Gauge Terrace* the path turns sharply to the right and runs along the *Esplanade* until it turns north and descends to a level formation, which is crossed to the *Diana Spring*. The waters flowing from this spring form the wonderful *Cleopatra Terrace*. About 500 feet from *Cleopatra Terrace* is a side path to *Palette Spring*, which has recently become active again. Beyond the side path the main path descends to the level of the starting point, with *Hymen Terrace*, in some respects the most beautiful of all, on the left. It will repay the tourist to make a side trip completely around this terrace.

McCartneys Cave is an old extinct spring, the opening of which is now covered by wire netting, on the grass lawn midway between the hotel and Fort Yellowstone. *Cupids Cave*, west of Jupiter Spring, has been closed up by deposit from a hot spring and can not now be visited.

SIDE TRIPS FROM MAMMOTH HOT SPRINGS.

Around Bunsen Peak.—Twelve miles by a one-way wagon road, south from Mammoth. Passes buffalo corral, climbs side of Bunsen Peak to Middle Gardiner Canyon (second canyon in size in the park), Sheepeater Cliffs in canyon sides, along the canyon with view of Osprey Falls (150 feet), and returning via Golden Gate and main road. Guide not necessary.

Buffalo herds (tame).—Small show herd is kept in summer in corral 1 mile south from Mammoth Hotel, on road to Bunsen Peak. Guide not needed. Formation surreys from hotel drive to this corral. Main herd is kept at buffalo farm on Lamar River, 30 miles east from Mammoth, on stage road to Cooke. Two hundred and thirty-two head of pure-blood bison under fence or herder. No accommodations nearer than Wylie Camp Roosevelt (12 miles), but plenty of good camping places and fine fishing.

Tower Falls (132 feet).—Near mouth of Tower Creek, 20 miles southeast from Mammoth, on road to Mount Washburn. Beautiful falls and mountain scenery. Guide not needed. Accommodations at Wylie Camp Roosevelt, 2 miles from Tower Falls, and at Shaw and Powell camp, one-half mile from the falls.

Petrified stumps.—Seventeen miles by wagon road and three-fourths mile on side road southeast en route to Tower Falls. No guide needed.

Specimen Ridge and Fossil Forest.—Twenty-four miles southeast by wagon road, thence 4 miles by trail. Guide needed.

Northeastern portion of park.—A trip could be made to include the petrified trees, Tower Falls, main buffalo herd, Specimen Ridge and Fossil Forest, and some of the best fishing in the park in Yellow-

stone River in vicinity of Tower Falls, Lamar River, and Slough Creek. Wylie permanent camp (Roosevelt) on Lost Creek, 2 miles northwest from Tower Falls (18 miles from Mammoth), and Shaw and Powell permanent camp (20 miles from Mammoth), provide accommodations after Mount Washburn Road is opened in the spring. Wagon road to Tower Falls, Slough Creek, and Soda Butte, but other points would have to be reached by trail, and guide and pack train would be needed. Excellent camping places in abundance on this trip.

MOUNTAIN CLIMBING.

*Electric Peak (11,100 feet).*¹—Ten miles northwest by trail; 8 miles may be done with saddle horse, balance on foot, and a portion of it is difficult and somewhat dangerous. Highest mountain in the park. Fine view on all sides. Guide needed.

*Bunsen Peak (8,600 feet).*¹—South 7 miles. Saddle horse can be ridden to top. Fine view. Guide not necessary.

*Mount Everts (7,900 feet).*¹—Northeast. Saddle horse can be ridden up from either end, over the top, and down the other end; total distance, about 15 miles. No guide needed.

Fishing trips.—One-day fishing trips from Mammoth Hot Springs may be made with rig, saddle horse, or even on foot by good pedestrians, as follows: South on main road to Obsidian Creek, Indian Creek, Upper Gardiner and branches, and Glen Creek, for small eastern brook trout. Distance, 4 to 10 miles. East to Lava Creek, 5 miles, for small native or eastern brook trout, or to Blacktail Deer Creek, 8 miles, for small native or rainbow trout. East or northeast to main Gardiner River for whitefish, native, Loch Leven, and eastern brook trout. North, 6 miles to Yellowstone River for whitefish and native trout.

MAMMOTH HOT SPRINGS TO NORRIS.

Three miles from Mammoth Hot Springs, on the road to Norris (20 miles), are the *Silver Gate* and the *Hoodoos*, altitude 7,000 feet. The massive blocks of travertine, piled up in a most confused manner and covering several acres in the neighborhood of Silver Gate, were evidently thrown down from higher levels, probably as the result of some violent earthquake shock, accompanied by powerful lateral thrusts. One-half mile farther is *Golden Gate* (7,245 feet), where the concrete viaduct should be noted as part of the difficult engineering this pass presented. *Bunsen Peak* is on the left, *Terrace Mountain* on the right. At the head of Golden Gate Canyon is *Rustic Falls*.

¹ There is no drinking water on top of any of these mountains.

Immediately after passing Rustic Falls (70 feet high) the road leads into *Swan Lake Basin*. The abrupt passing from the frowning walls of Golden Gate Canyon to this open, smiling mountain valley is typical of the many unexpected changes that form the scenery along the park roads.

On the right are the many peaks of the *Gallatin Range*. *Electric Peak*, at the extreme north; then the long, flat summit of *Quadrant Mountain*, then *Bannock Peak*, *Antler Peak*, *The Dome*, *Trilobite Point*, and *Mount Holmes* on the extreme south. Mount Holmes, especially, is visible from many points along the road. *Glen Creek*, which flows through Swan Lake Basin, contains many red speckled brook trout. Camping is not allowed along Glen Creek or in Swan Lake Basin.

Swan Lake (7,256 feet) is near the 5-mile post, and the headquarters camp of the Wylie Permanent Camping Co. is passed just before reaching the 6-mile post. After passing the 6-mile post camping is permitted at any point over 100 feet from the road. However, as the timber commences near this point, the openings where grass can be obtained are noted on the succeeding pages as camp sites. Between 6-mile post and *Apollinaris Spring*, 10 miles from Mammoth Hot Springs, are many good camp sites. All the streams along the road have trout in them.

Gardiner River (7,300 feet) is crossed at the 7-mile post, and a little farther at the right of the road is the first camp of the Shaw & Powell Camping Co. Here the road enters *Willow Park* (7,300 feet), comprising the valley of *Obsidian Creek*, which is frequently crossed by the dams of beaver and dotted by their ungainly houses.

At *Apollinaris Spring* (10 miles from Mammoth Hot Springs, altitude 7,300 feet) is a landing platform on the left of the road for those tourists who wish to stop and try this water. On the opposite side of the road is a good camping place, the next camp site being 4 miles farther on the right side of the road.

Obsidian Cliff (12 miles from Mammoth Hot Springs, altitude 7,350 feet) is a cliff of hard, black volcanic glass. It is the most prominent exposure of this rock in the park. Obsidian also occurs in the red and white forms. It was much used by Indians for arrow heads and other stone implements, this being one of the few points in the park frequented by them before its discovery by white men. On the right at this point is *Beaver Lake*, the dam here being very long and heavy. An old beaver house can be seen near the south end of the lake.

A camp site (14 miles from Mammoth Hot Springs) is passed $1\frac{1}{2}$ miles south of Beaver Lake; next camp site is just south of Bijah Spring, 3 miles farther on.

Roaring Mountain (15½ miles from Mammoth Hot Springs, altitude 7,550 feet) is especially to be noted as a late development of thermal action. In 1902 this mountain side was covered by a heavy growth of pine timber, and the only evidence of subterranean heat was a small opening among the pines 30 feet square on the extreme top of the mountain, in which a little steam could be seen rising from the ground. In the year mentioned activity became greater; the formation gradually spread to its present size, and it is not certain that the limit has yet been reached.

Twin Lakes (16 miles from Mammoth Hot Springs, altitude 7,513 feet) are two beautiful lakes, very close together, connected by a small brook, yet they are of different color.

Bijah Spring (17 miles from Mammoth Hot Springs, altitude 7,500 feet) is alongside the road. There is a good camping place just south of this spring; the next camp site is on the canyon road a half mile beyond Norris (3½ miles from this point).

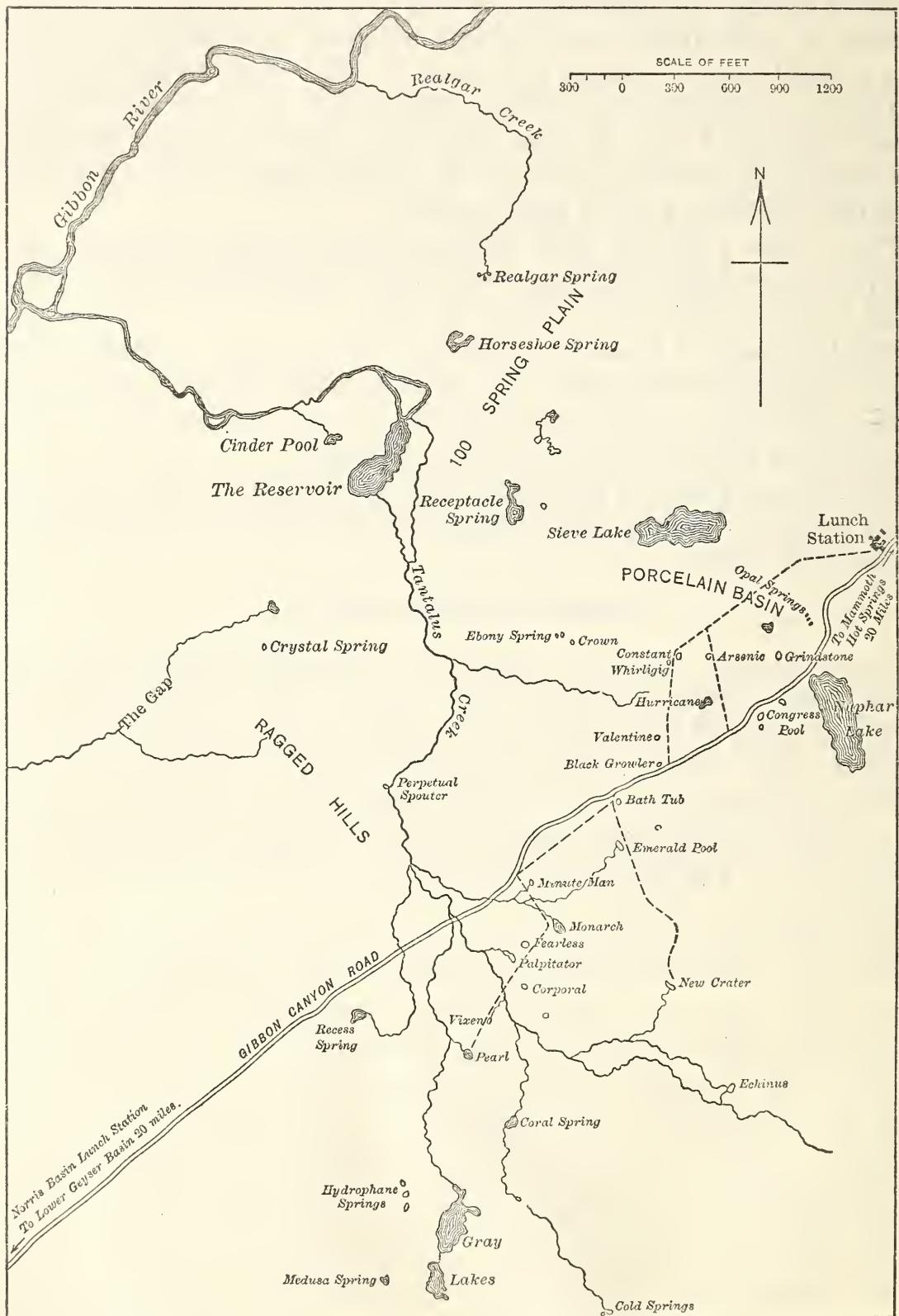
The *Frying Pan* (18 miles from Mammoth Hot Springs, altitude 7,500 feet) is a peculiar hot spring, stewing away in a manner that earned it its name.

NORRIS GEYSER BASIN.

Norris Geyser Basin (20 miles from Mammoth Hot Springs, 25 miles from Gardiner, altitude 7,470 feet).—The soldier station is at the crossing of the Gibbon River, where there is good fishing for rainbow trout. The road leading to the right in a southerly direction is the regular loop road to the Geyser Basins, while that leading to the left in an easterly direction is the loop road returning from the canyon. The geyser basin itself is a half mile south of the junction.

The path for viewing this formation starts immediately in front of the lunch station and follows the board walk in a southwest direction to the road near Black Growler. Owing to the unsafe condition of the crust through this part of the trip it is not wise to step off the walk. *Constant Geyser*, *Whirligig Geyser*, *Valentine Geyser*, and the new opening of the *Black Growler* are passed in the order named. The new opening of the Black Growler first made its appearance in August, 1912, and has steadily increased in power ever since; it is about 100 feet from the old opening and farther down the hill. This serves to illustrate the main characteristic of this basin, which is its unstableness. The phenomena of this basin, with the possible exception of the Constant and Minute Man, are constantly changing in size, locality, character of eruption, and nature of contents of tube. The old opening of the Black Growler is near the road and is now inactive. Tourists now proceed southwest along the road to the

Bathtub, on the left. Some seasons this is an active geyser, playing at intervals of a few minutes, in other years it boils violently, but does



SKETCH MAP OF NORRIS GEYSER BASIN.

not throw out any water. From the Bathtub a branch path leads south past *Emerald Pool* and some small paint pots that have devel-

oped since 1905 to the *New Crater Geyser*. This geyser is a comparatively recent outbreak of a well-known old vent, but unknown to those who witnessed the first display of the so-called New Crater. The texture and color of the most recent deposits are due mainly to salts of iron derived from ferruginous minerals in the fresh rock exposed by the opening of the New Crater. The floor of the Norris Geyser Basin consists of siliceous sinter similar in all respects to the sinter bottoms of the other geyser basins. It is frequently covered with brilliantly tinted algous growths, which flourish luxuriantly in the warm waters. After returning to the Bathtub the path leads southwest down the hill to the platform near the *Minute Man Geyser*. Three hundred feet southeast of the Minute Man, near the base of the hill, is Norris's biggest geyser, the *Monarch*. Unfortunately this geyser has the varying habit, and it is almost impossible to foretell what its period between eruptions will be. During 1913 it played every hour, and further varied its custom by throwing black mud instead of clear water as it had previously done. Some seasons it has been known to play only once or twice. The path continues south to *Fearless*, *Palpitator*, *Corporal*, *Vixen*, and *Pearl Geysers*, all small and with such uncertain periods of eruptions that they are unsatisfactory to visit.

Congress Pool is on the left of the road south of the lunch station, and has at times been a quiet pool, a boiling pool, a steam vent, and a mud geyser, changes occurring so rapidly that one month it may have quite different characteristics from what it had the preceding month or what it may have the following month. The *Echinus* and *Valentine Geysers* are well worth seeing, but have seldom played during the last season or two. The *Hurricane* is now a mud vent on the right of the road south of the Congress Pool.

NORRIS TO LOWER GEYSER BASIN (FOUNTAIN HOTEL).

From Norris the road leads southwest to the Fountain Hotel (20 miles). It passes through *Elk Park*, 2 miles from the junction at Norris, where there is a camp site, then runs along Gibbon River through a short canyon, interesting from the peculiar rock formation. Through *Gibbon Meadow*, 4 miles from Norris, altitude 7,315 feet, are good camping places; the next camp site is below Gibbon Falls, 5 miles farther on, but there is no forage at the Gibbon Falls camp, the first camp beyond Gibbon Meadows where there is forage being on Firehole River, 13 miles from the Gibbon Meadows.

At the south end of Gibbon Meadow a branch road leads to the left to *Gibbon (or Artist) Paint Pots*, located on the mountain side, 50 feet above the meadow level and a half mile from the main road.

Just after crossing Gibbon River the first time (about $4\frac{1}{2}$ miles from Norris), is a trail that leads back up the river, then up the mountain for about three-fourths mile to the *Monument Geyser Basin*, which is very interesting on account of the peculiar forms of the geyser cones and because it is the highest of all the park geyser formations. It is not, however, of enough interest to the casual visitor to pay for the visit, the thermal activity being practically extinct.

The road now leads through the main *Gibbon Canyon* for 5 miles, first on one bank of the rapidly flowing stream, then on the other. The canyon is characterized by fine views and many curiosities, but the tourist has time and inclination now only for the more prominent. *Beryl Spring* (5 miles from Norris, altitude 7,296 feet) is a fine boiling spring close to the road. *Iron Spring* (8 miles from Norris, altitude 7,100 feet) is a cold mineral spring that, like *Apollinaris Spring*, is usually sampled by tourists. *Gibbon Falls*, 80 feet high ($8\frac{1}{2}$ miles from Norris), is the very pretty waterfall of Gibbon River on the left as the road descends. One-half mile farther is a good camping site on the left, but it has very little, if any, forage for horses.

Ten miles from Norris a branch road to the west leads to the western entrance. At this point the road leaves Gibbon River, climbs the mountain to the left, and passes for nearly 5 miles over a rolling sandy country covered by pine forests. The road then descends to *Firehole River* at the *Cascades of the Firehole* ($14\frac{1}{2}$ miles from Norris). Another road from the western entrance joins the belt road at *Firehole Cascades*. There is good fishing in *Firehole River* for eastern brook, *Loch Leven*, *Von Behr*, native, and rainbow trout, and also whitefish.

The road now leads up *Firehole River*, and just north of the 17-mile post from Norris is a good camp site. Camp sites are now almost continuous for 2 miles. At the 18-mile post a soldier station is passed; in front of this station a short road to *Excelsior Geyser* and *Upper Geyser Basin* branches out to the right. This short road, however, misses most of the *Lower Geyser Basin*. One-half mile from the soldier station *Nez Perce Creek* is crossed. This is the last camp site till *Excelsior Geyser*, $4\frac{1}{2}$ miles farther, is reached.

SIDE TRIPS FROM FOUNTAIN HOTEL.

Great Fountain Geyser and Firehole Basin.—One and one-half miles southeast by wagon road. No guide needed.

Twin Buttes and Fairy Falls (250 feet).—Three miles southwest by trail. No guide necessary.

Fishing.—Good fishing in *Firehole River* and branches within easy distance of hotel.

**LOWER GEYSER BASIN (FOUNTAIN HOTEL) TO UPPER GEYSER
BASIN (OLD FAITHFUL INN).**

Lower or Fountain Geyser Basin (20 miles from Norris, 40 miles from Mammoth Hot Springs, and 45 miles from Gardiner, altitude 7,240 feet) is the largest of the park geyser basins, but its curiosities are too scattered to admit of more thorough examination than can be given to the more prominent ones along the road.

After passing the hotel and crossing a flat a few hundred feet wide, the road ascends a low hill to the *Mammoth Paint Pots*, a striking example of what has been given the name "paint pots." They occur everywhere throughout the park, but the more prominent are here and at the West Thumb.

From the unloading platform at the Mammoth Paint Pots a side path leads along the ridge through the pines to the *Fountain Geyser*, which is surrounded by a great many small geysers. The Fountain Geyser was in former years very prominent, more on account of the vast quantities of water erupted than of its height. Since 1911 the eruptions have been erratic and seldom witnessed.

The *Clepsydra*, *Bellefontaine*, *Jelly*, and *Jet* are all small geysers near the Fountain; usually one or more of them is in eruption. They are given little attention because of the greater attractions that lie before the tourist.

South of the Mammoth Paint Pots a branch road leads to the left to Firehole Lake and other curiosities. It is usually taken by the tourist unless it is important to hurry on. The main road proceeds in a straight line in a southwest direction. The first interesting feature is *Hot Lake*, at the western end of which is a pair of constantly playing geysers, known as the *Black Warrior* or *Steady*. But the most remarkable feature here is the second lake at the extreme western end of the road, known as *Firehole Lake*. If the tourist leaves his conveyance and follows the path a hundred yards or so to the extreme eastern point of the lake, he will see the so-called flames. But they are to be seen from only two points, and should the wind be causing a disturbance of the water he may not see them at all. There is a circular opening in the bottom of the lake of a deep-seated spring not unlike other vents of thermal waters. Through this vent, which usually stands full of clear, transparent water, numerous bubbles of mingled air and superheated steam rise gradually. Before reaching the surface they unite to form one large mass that in its upward passage strikingly resembles a flame of fire. This continues till the bubble bursts, only to be followed by a repetition of the phenomenon. The phenomena are far better seen at Firehole Lake than elsewhere, but under favorable conditions they may be seen at other localities. On the return the road branches to the left, leading

to the *Great Fountain Geyser*, playing every 8 to 12 hours, and rightly considered as one of the sights of the park. Even during the quiescent period the beauty of its pool and the delicate tracery of its formation are worthy of close examination.

Between Firehole Lake and the Great Fountain, *Bath Lake*, with its bathhouse, is passed; *Young Hopeful*, *Narcissus*, *Bead*, and *Pink Cone* are all small and interesting geysers.

To the west of Great Fountain a footpath a half mile in length runs past *Surprise*, *Diamond*, *Five Sisters*, and *Buffalo Springs*. All are worth visiting if one has the time.

From the Great Fountain two roads lead back to join the main road. The one running northwest passes the imposing cone of the *White Dome*. This cone is large and interesting, but the geyser itself is too feeble to detain the tourist long.

The other road leads west, and about 200 feet from the Great Fountain is a violently boiling spring close to and at the right of the road. This is *Firehole Pool*, with phenomena similar to Firehole Lake, but it is often necessary to walk entirely around the spring to find a favorable point of view.

One hundred feet farther, at the right, is *Broken Egg Spring*, an exquisite dainty. For the next mile or two the road approaches *Twin Buttes*, a prominent landmark in the southern end of Lower Geyser Basin and west of Firehole River.

Midway Geyser Basin (3 miles from Fountain) is, properly speaking, a part of the Lower Geyser Basin, but owing to the size of its features it has often been given a separate designation. There are numerous camp sites along the river above and below Excelsior Geyser. The next camp site is at Biscuit Basin, 3 miles farther on.

The greatest attraction here is *Excelsior Geyser*, which was the largest geyser in the park, but which has not been active since 1888. The beautiful tints and colors of *Prismatic Lake* and *Turquoise Spring* make them worthy companions.

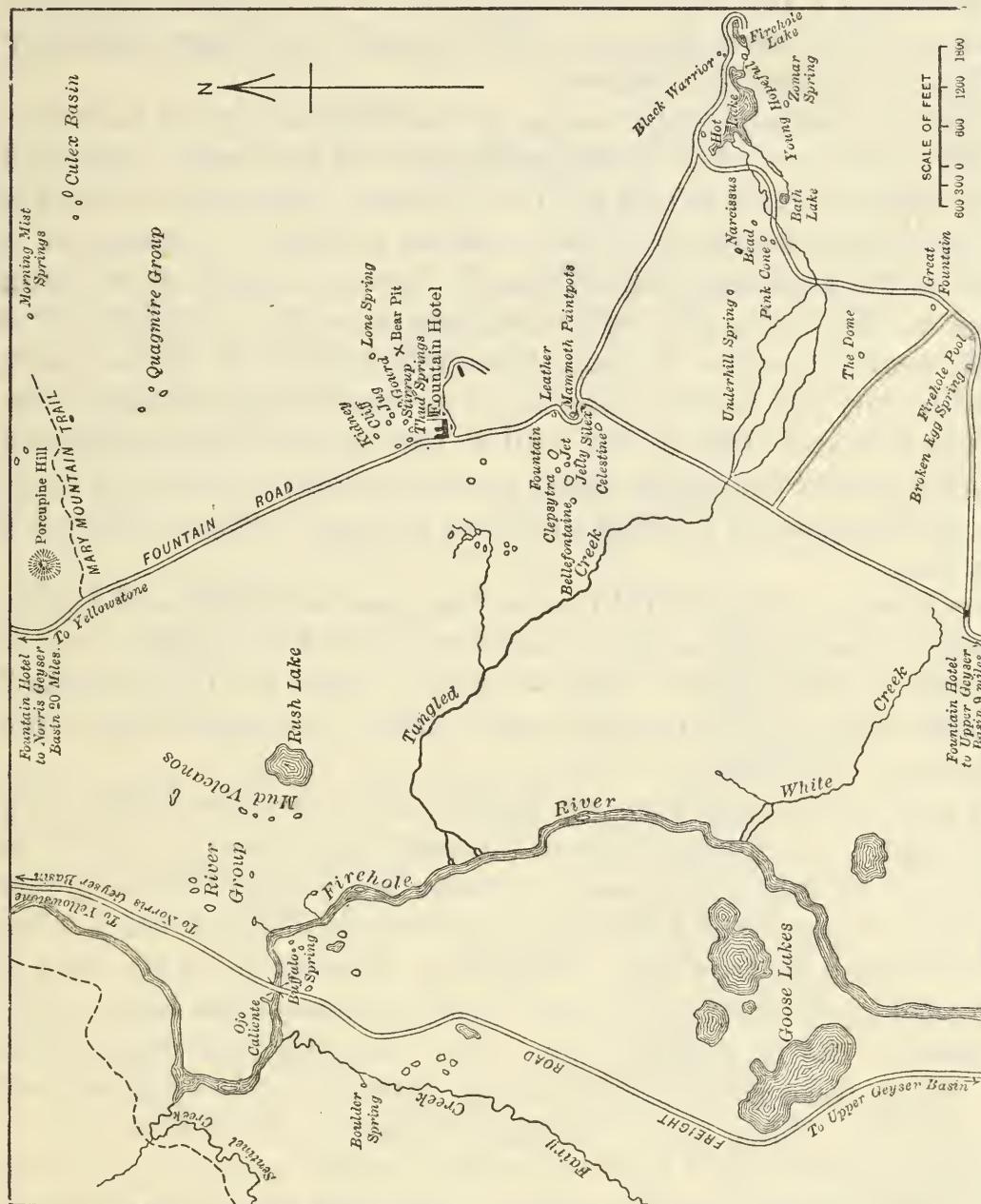
Biscuit Basin (6 miles from Fountain) is in reality the lower end of the Upper Geyser Basin. There is a good camp site here, the next being near Riverside Geyser $1\frac{1}{2}$ miles farther. Fishing here, and in fact all the way from Nez Perce Creek, is good, but the constant fishing makes the fish wary.

The road forks opposite Biscuit Basin; the road on the right should be taken if Biscuit Basin is to be visited. If no stop is to be made at Biscuit Basin, either road may be taken, as they unite near Mirror Geyser.

Biscuit Basin is on the west side of Firehole River and is reached by a footbridge. *Sapphire Pool*, one minute quiet and two or three minutes later violently boiling, is the attractive feature here. The peculiar formation at its south end gives the name of "Biscuit" to

this basin. A short distance west the *Jewel* and *Silver Globe* are small geysers whose striking formation gives them their characteristic names.

Mystic Falls is on Little Firehole River some distance to the west and rather difficult to find.



SKETCH MAP OF LOWER GEYSER BASIN.

A half mile after leaving Biscuit Basin, at the right and below the road, is the *Artemisia Geyser*, which has a beautiful crater and throws a tremendous volume of water when in action.

UPPER GEYSER BASIN.

A mile and half south of Biscuit Basin, at the base of a small hill, the road branches again. The road on the right should be taken, as on it is *Morning Glory Spring*, whose beautiful shape and color

make it an object of universal admiration. At this point we enter the far-famed Upper Geyser Basin, where the largest and finest geysers of the world are gathered together in a small space only a mile north and south by a half mile or less wide.

The *Fan Geyser* is on the right between the road and the river. The *Mortar* is a few feet farther up the river. At their best these geysers are very interesting, but unfortunately have been seldom in eruption for the last five seasons.

At the left, just above the bridge on the extreme edge of the river, is the *Riverside*, one of the prominent geysers of the basin. Its period is very regular, ranging from five to six hours. An overflow from the lower opening presages an eruption within an hour. A camp site is located on the knoll above the Riverside Geyser. Camping not being allowed in the basin, the next camp site is south of Old Faithful Geyser, nearly 2 miles by road from this point. A special camp ground for private parties traveling in automobiles is provided here.

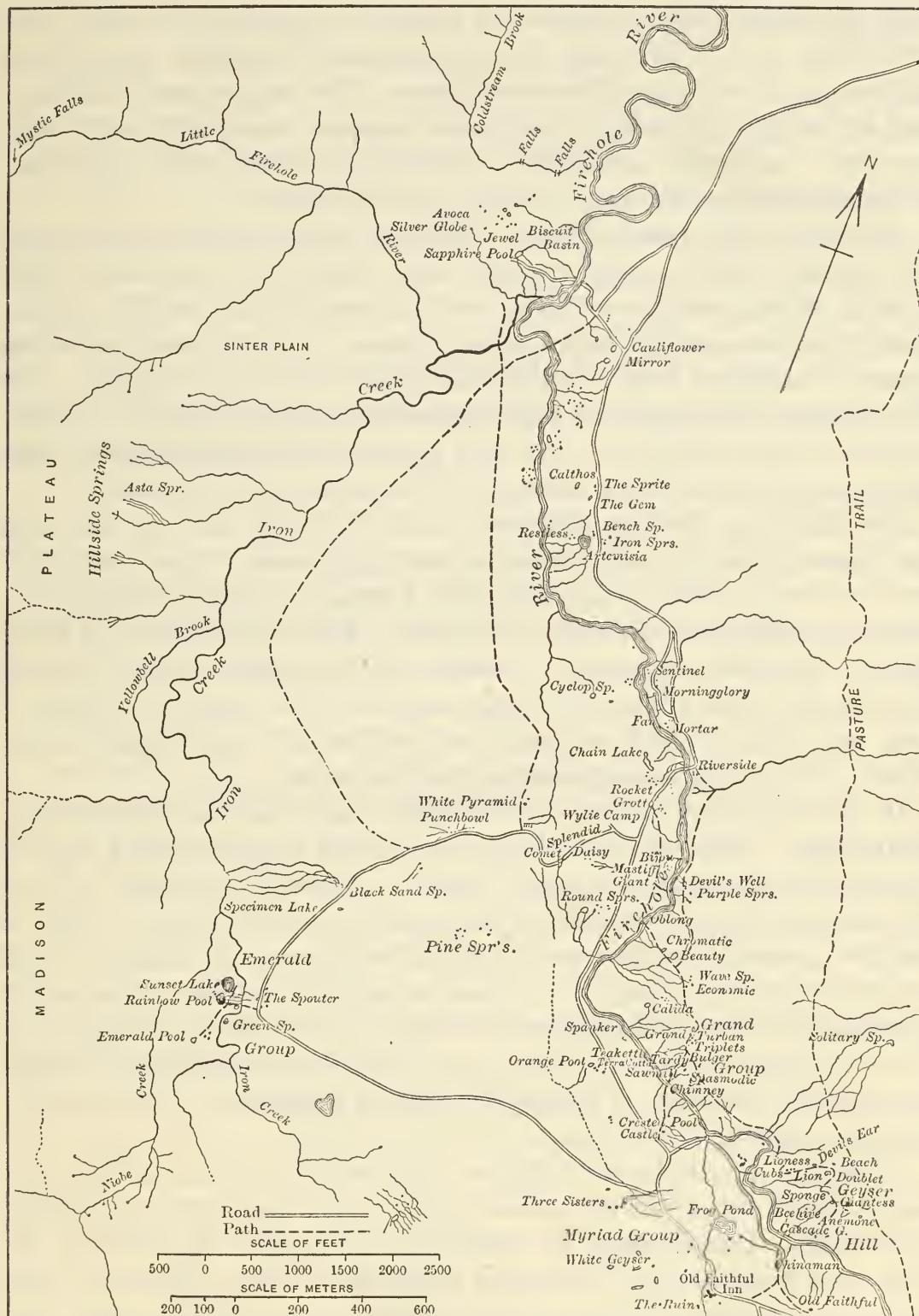
At the left and close to the road is the *Grotto Geyser*, differing from most in that the empty crater is more interesting than the eruption. At this point it is usual to follow the path instead of keeping to the road.

From here to Old Faithful Geyser there are two roads and a path. The road to the left is the direct road, but it does not pass any curiosities except Castle Geyser. (See description under the trip by path.) The road to the right (the Blacksand Road) is slightly longer and passes many curiosities.

The road to the right turns up the hill and passes the Wylie camp on the right. Immediately beyond the road comes close to a group of geysers and springs. Of these, the *Daisy* is a powerful little geyser that plays frequently and regularly. During the last few years it has been increasing in frequency and power. Next to it on the west is the hooded opening of the *Comet*, while over near the edge of the formation is the *Splendid*. The Comet and Splendid very seldom play. These three geysers as well as all springs in this neighborhood are connected. When one of the geysers plays it affects them all.

A quarter mile beyond the road passes a crested spring on a mound on the right. This is the *Punchbowl*. Then the *Black Sand Spring*, *Specimen Lake*, and the *Spouter Geyser* are passed. Near the Spouter is a footbridge to the west bank of Iron Creek. On crossing the bridge, immediately before one are the attractive *Sunset Lake* and the *Rainbow Pool*, and to the south lies *Emerald Pool*, one of the most beautiful of the Upper Basin springs. As the road leads on across a more or less level stretch it passes the *Three Sisters* group of springs and shortly afterwards joins the main road a couple of hundred yards or so north of Old Faithful Inn.

The path that leaves the road at the Grotto Geyser leads past the shattered cone of the *Giant Geyser*, the greatest geyser of them all,



SKETCH MAP OF UPPER GEYSER BASIN.

but rather uncertain in its periods. At the right of the Giant are the *Bijou* and *Mastiff*, two small geysers that are playing most of the time. On the opposite side of the river east of the Giant are three

pools, normally quiet but apparently connected to the Giant, as the surface of their water lowers each time their big neighbor erupts. A short distance farther is the crater of the *Oblong Geyser*, beautiful to look at either while quiet or in action. Crossing the river on a footbridge and continuing, the path passes *Chromatic* and *Beauty Springs* and on to the *Economic Geyser*. For many years this small and active geyser played every three minutes, using the same water over and over again. But lately its action has been erratic and sometimes months pass without it being seen in action.

A quarter mile farther to the south, at the base of a rock-covered hill, is one of the finest geysers, the *Grand*, its eruptions being smooth, strong, and powerful, as well as beautiful to behold. Immediately to the north is the *Turban Geyser*, so called because of the image of a turban seen in a detached piece of its northern rim. All the springs and geysers in this section seem to be more or less connected to the Grand, for while each geyser plays independently their water supply seems to be affected by the action of the Grand.

The *Triplets*, *Bulger*, *Chimney*, and *Teakettle* are for the most part quiet pools, but sometimes violently agitated. The *Tardy* is a very powerful little geyser, with such a small opening that there is a sharp whistling noise to each eruption. The *Spasmodic* is a small geyser. But the important member of this group is the *Sawmill Geyser*; here the violent whirling motion of its waters in action is due, no doubt, to the explosion of bubbles of superheated steam, aided, perhaps, by some peculiarity of its crater.

It is usual here to turn to the right and cross the river on the footbridge. The path then leads up the hill to the *Crested Pool*, a beautiful open spring of great depth. It never boils, nor is it at all affected by the eruption of the near-by *Castle Geyser*. This is another powerful geyser, and is, so far as known, unconnected with any other spring or geyser. It is also peculiar in that it frequently spurts up 15 or 20 feet, just as it if might play. This spouting sometimes continues for several days, and is usually an indication that the geyser will *not* play. This geyser has the highest and probably the most remarkable cone of any.

From this point the path leads to the soldier station on the river bank, where the river is crossed again to the east side on another footbridge. Immediately in front and a hundred yards from the river is a rounded hill of geyser formation, with a group of four geysers on its top. These are the *Lion*, *Lioness*, and two cubs. The *Lioness*, which is the large open crater of boiling water, and the large cub, the smaller of the two cones, are very seldom in eruption. But the little cub, the smallest opening, plays every two hours, and the *Lion*, the largest of the cones, plays frequently.

To the west on the next elevation is the *Devil's Ear*, and a little farther on is the *Doublet*, both quiet boilings springs. Then the path turns to the south to the *Sponge Geyser*, remarkable for the color and texture of its formation and the explosiveness of its eruptions, although it only throws its water 2 or 3 feet.

Next a low mound to the south is ascended, and on it are located three open pools, sometimes quiet, sometimes boiling, and sometimes in action. The connection between all three is very close. The first pool with the raised rim is the *Teakettle*; the second, the smaller of the rimless pools, is the *Vault*; the largest pool is the crater of the *Giantess*, a large, powerful, and uncertain geyser. It is just as well not to approach the Giantess too close; it has not much consideration for the safety of its visitors, and has been known to break forth into eruption with no warning whatever from its quiet, smiling crater. When this geyser does start, the vast masses of erupted water are wonderful to behold.

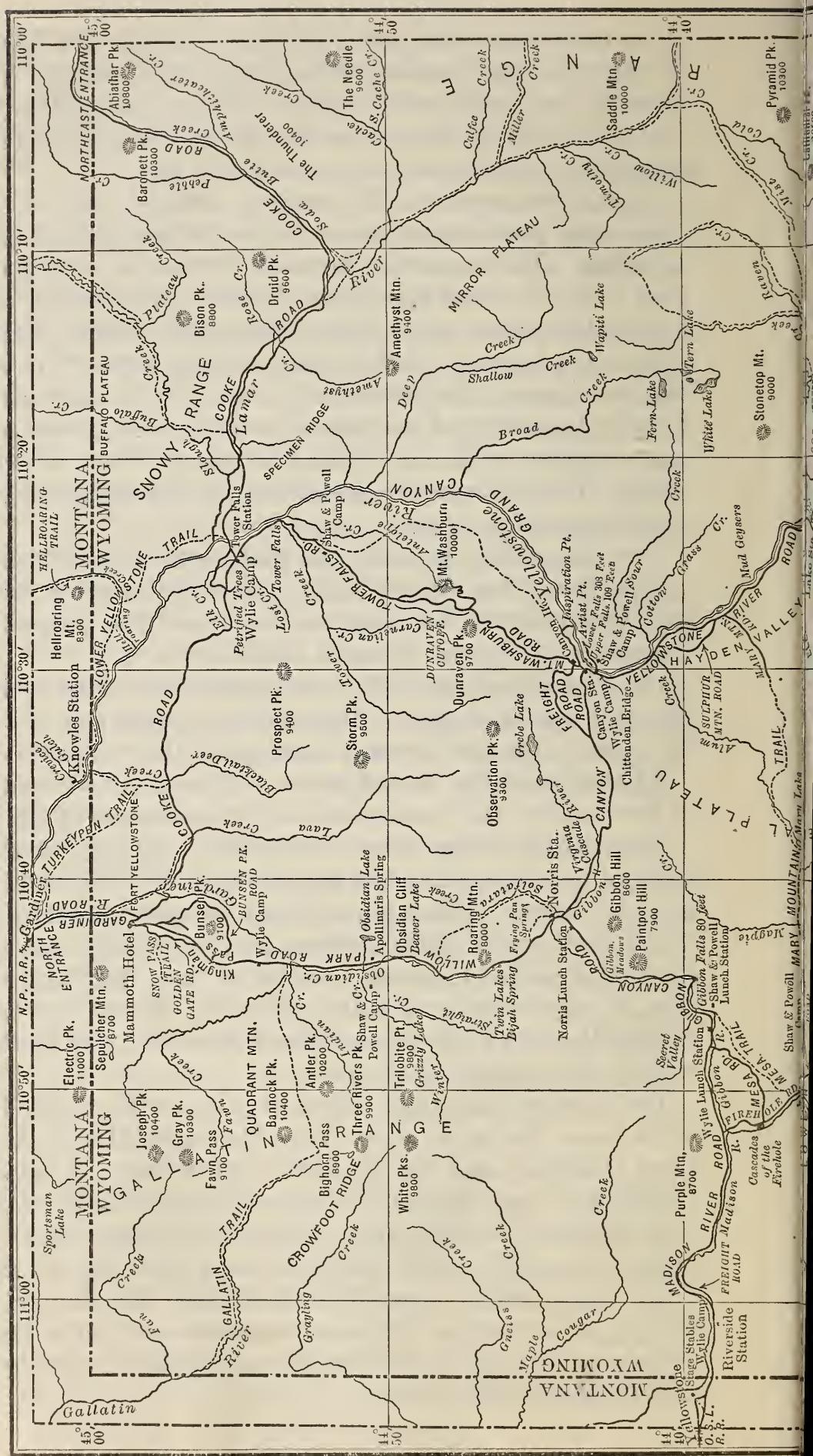
Now the path turns south and then down toward the river, but the tourist should keep far enough to the south to avoid the small openings that indicate the dangerous nature of the ground between the Giantess and the nearest point of the river.

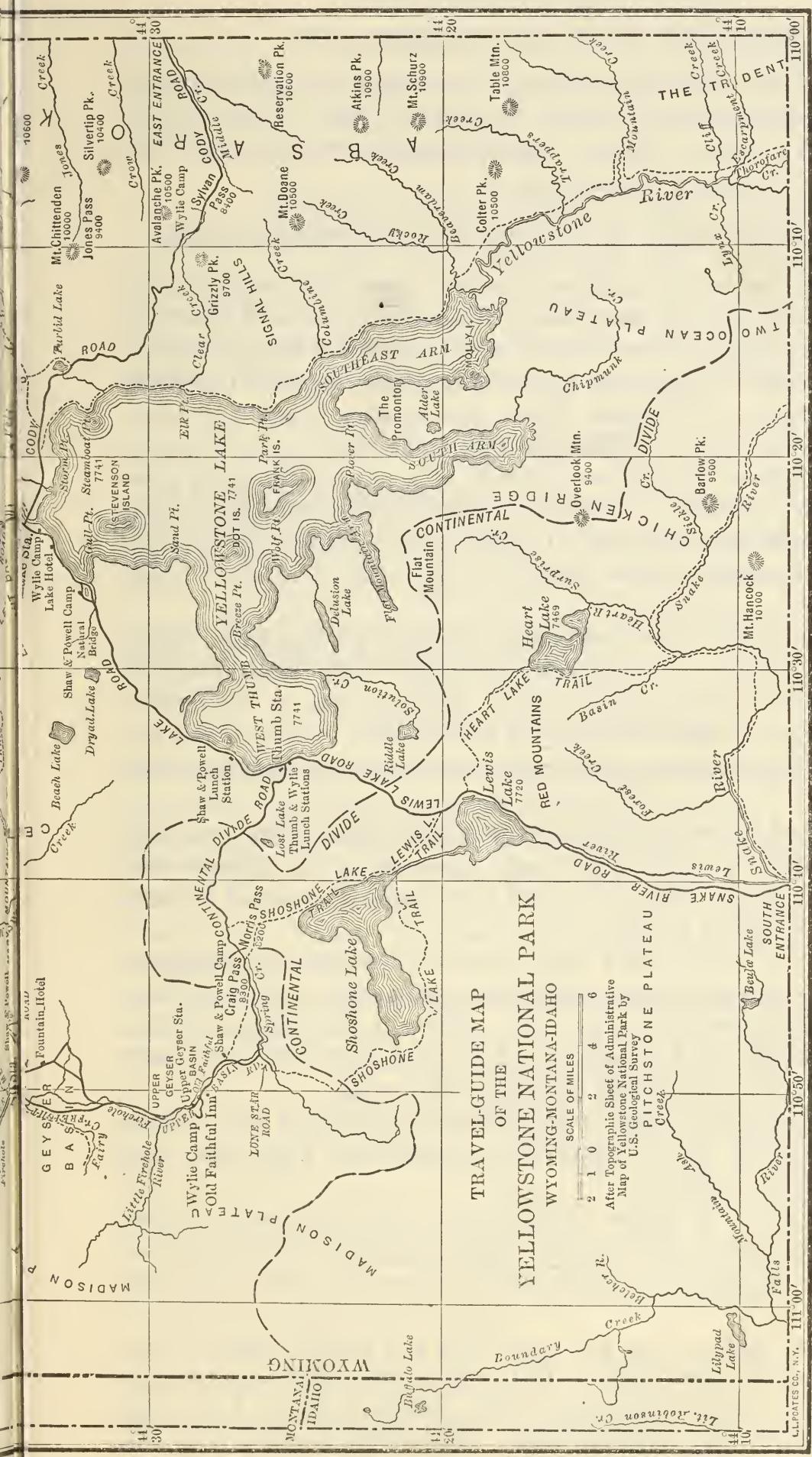
On the edge of the high bank of the river is the broken crater of the old *Cascade Geyser*. Immediately opposite on the west side of the river is the small round opening of the *Chinaman Spring*.

At this point the tourist turns a little north of west to the cone of the *Beehive*, the most artistic and symmetrical of all.

Crossing the bridge below the Beehive and going south to the very head of the basin, the tourist arrives at *Old Faithful Geyser*, the tourists' friend. Other geysers may be more powerful, others may throw their water higher, others may have more beautiful craters, but Old Faithful has some of each of these qualities, and, in addition, it plays often and with regularity. It had the honor of welcoming the first explorer, and never since that day has it failed any tourist who cared to look at it.

The head of the upper Basin is 9 miles from the Fountain, 29 miles from Norris, 49 miles from Mammoth Hot Springs, 54 miles from Gardiner, and the altitude is 7,330 feet. A general store is located here near the hotel. The road leaves the basin south of the Old Faithful for the West Thumb, 19 miles away. There are camp sites south of Old Faithful for a half mile or as far as the first wagon bridge across Firehole River. The forage, however, is lacking at these sites. The next camp site is $3\frac{1}{2}$ miles farther, on the branch road to the *Lone Star Geyser*, which is three-quarters of a mile from the main road.





SIDE TRIPS FROM OLD FAITHFUL INN.

Shoshone Lake and Geyser Basin.—Four and one-half miles by road via Lone Star Geyser, thence 8 miles via trail. Union Geyser 100 feet high; Bronze Geyser. Guide needed. Fishing for Loch Leven, lake, and eastern brook trout.

UPPER GEYSER BASIN TO THUMB OF YELLOWSTONE LAKE.

As the road leaves Upper Geyser Basin it begins its long climb to the *Continental Divide*, first along Firehole River and then up Spring Creek Canyon. Two miles from Upper Basin there is a platform on the right to enable one to view the pretty *Keppler Cascades*.

At the junction of Firehole River and Spring Creek ($3\frac{1}{2}$ miles from Upper Basin) the road leaves the Firehole, but there is a branch road to the right running three-quarters of a mile to the *Lone Star Geyser*, which plays for 10 minutes at intervals of 40 minutes, height 40 to 60 feet, altitude 7,600 feet. On this branch road are good camp sites, the next being $6\frac{1}{2}$ miles farther up the main road at *De Lacy Creek*.

The first crossing of the *Continental Divide*, $8\frac{1}{2}$ miles from Upper Basin, at an altitude of 8,240 feet, is through *Craig Pass* alongside of a little lily-covered lake, *Isa Lake*, whose waters in springtime hesitate whether to flow out one end into Pacific waters or out the other into Atlantic waters and usually compromise by going in both directions.

Then the road turns down the narrow and tortuous *Corkscrew Hill* to a little valley at *De Lacy Creek*, hemmed in by pine-covered heights on all sides. Here is the last good camp site to the Thumb, 9 miles from De Lacy Creek.

Soon after leaving De Lacy Creek the road comes out on *Shoshone Point* from which *Shoshone Lake* is in plain sight and the *Teton Mountains* can be seen on a clear day. There is fine fishing in Shoshone Lake, which can be reached by following down De Lacy Creek for a distance of about 3 miles from the main road.

The road descends a little from Shoshone Point and then climbs to the *Continental Divide* again at an altitude of 8,345 feet ($15\frac{1}{2}$ miles from Upper Basin).

From this point it pitches rapidly down through dense timber until within 1 mile of the Thumb, when a glimpse of *Yellowstone Lake* is had. A little later *Duck Lake* is passed far below the road on the left.

As the road leads out to the lake shore the soldier station is on the left where the road forks. The road to the right leads to the hotel company's lunch station, the boat landing, Lewis Lake, the South Boundary, and Jackson Lake. The road to the left is the

main road. At this point the tourist may ride on the boat to the Lake Hotel (16 miles) on payment of extra charge. This trip by boat is often a relief from the dust and gives many views of the lake that can not be seen from the road.

SIDE TRIPS FROM THUMB LUNCH STATION.

Jackson Hole and Lake.—Forty-eight miles (25 outside of park). Lewis Lake and Falls. Teton Mountains in Jackson Hole; Grand Teton, 13,691 feet. Fishing for native and lake trout. Wagon road.

Heart Lake and Geyser Basin.—Twelve miles south by trail. Guide needed. Fishing for lake and native trout.

THE THUMB.

At the Thumb the tourist should see *The Paint Pots*. They are not as large as the ones at the Fountain, but are more brilliantly colored. The *Fishing Cone* is situated on the margin of Yellowstone Lake, a quarter mile north of the boat landing. The *Lakeshore Geyser*, which frequently plays to a height of 30 feet is on the lake shore, 200 feet north of the boat landing.

THUMB TO LAKE HOTEL.

Should the traveler elect to follow the road from West Thumb (19 miles from Upper Basin, 28 miles from Fountain, 48 miles from Norris, 68 miles from Mammoth Hot Springs, 73 miles from Gardiner, altitude of Yellowstone Lake, 7,741 feet), he will follow the shore of Lake Yellowstone for about 5 miles. There are camp sites 2 miles from Thumb, 5 miles from Thumb, and on Bridge Creek, 11 miles from Thumb.

As the road passes around Thumb Bay fine views of *Mount Sheridan* to the south are had. Near the top of the hill is obtained a fine view of Thumb Bay on the right; a little later the *Knotted Woods* on the left are passed. The road then traverses a rolling table-land covered with dense pines. At a point 10 miles from Thumb the road crosses Bridge Creek; a half mile farther on is a camp site. *The Natural Bridge* is about $11\frac{1}{2}$ miles from Thumb; it is 200 yards from the road on the left and in plain sight. There is a camp site at this point, and from here to the Yellowstone Canyon good camp sites are numerous. A special site for automobilists desiring to make camp is reserved near the Lake Outlet.

At the *Lake Hotel* (16 miles from Thumb, 35 miles from Upper Basin, 44 miles from Fountain, 64 miles from Norris, 84 miles from Mammoth Hot Springs, 89 miles from Gardiner) are the boat landing and a general store selling supplies and curios. There is good

fishing all along Yellowstone Lake, but especially at the outlet of the lake, $1\frac{1}{4}$ miles north. Boats and tackle may be rented at the boat landing.

LAKE HOTEL TO GRAND CANYON.

Nearly 2 miles from Lake Hotel the road to East Boundary and Cody branches off to the right. Seven and one-half miles from Lake Hotel there are platforms for tourists wishing to see *Mud Volcano* and *Grotto Spring*, located 100 yards to the left of the road. There is good fishing all along the river. The road soon enters and crosses *Hayden Valley* and then enters a narrow valley by side of the Yellowstone River.

Fifteen miles from Lake Hotel, and right at the head of the rapids, a branch road leads to and across the *Chittenden Bridge* to the east for $2\frac{1}{2}$ miles to *Artist Point*. From this branch road there can be obtained magnificent views of the Upper Falls, the Lower Falls, and the Grand Canyon. There is a path along the rim that can be followed on foot, and a great many views seen to advantage.

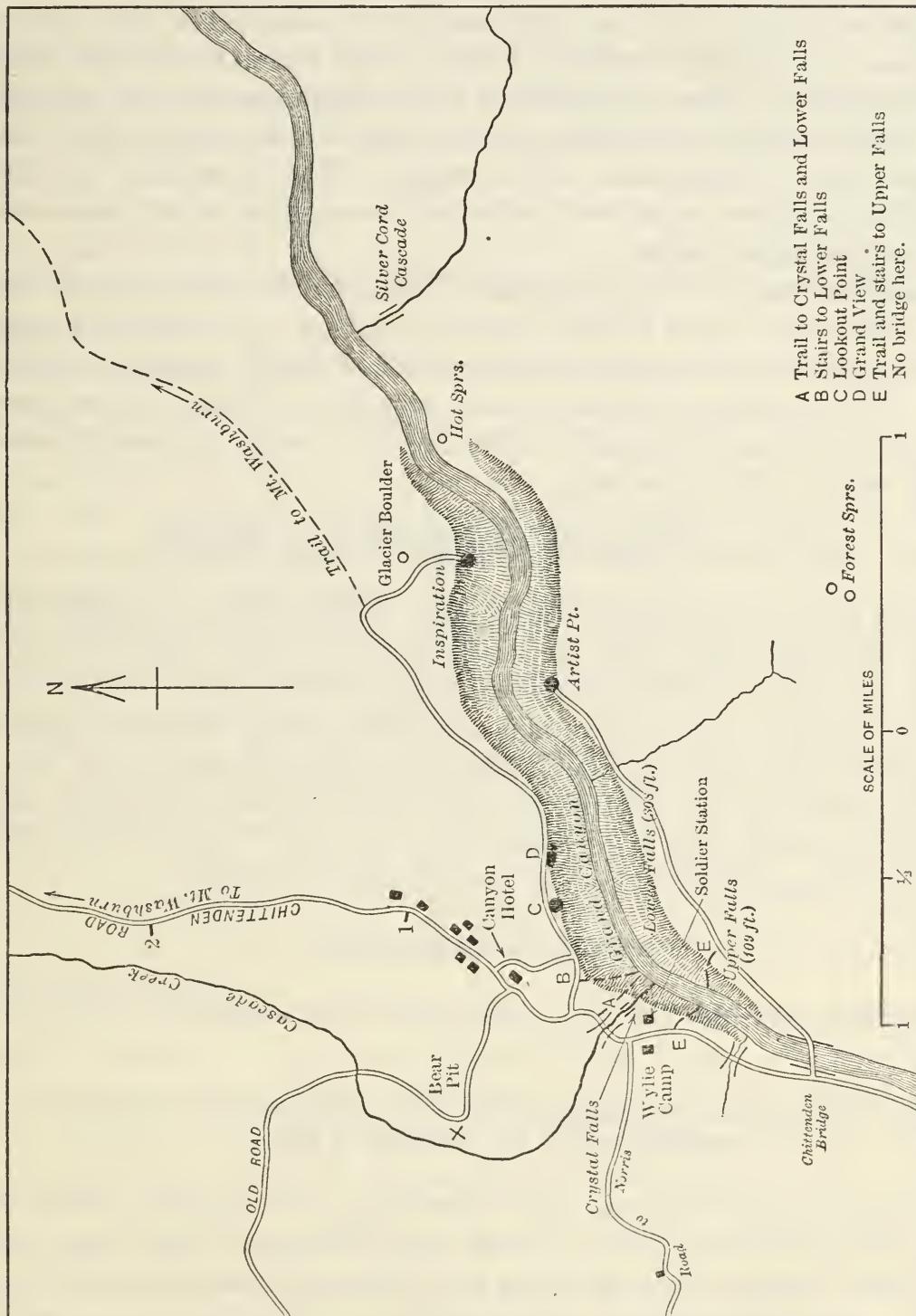
The main road leads to the left. In about a half mile the platform at *Upper Falls*, 109 feet high, is reached, steps leading down to the rim of the falls. A few hundred feet farther is the soldier station and then shortly after the roads fork again. This is Canyon Junction, 16 miles from Lake, 32 miles from Thumb, 51 miles from Upper Basin, 60 miles from Fountain, 80 miles from Norris, 100 miles from Mammoth Hot Springs, 105 miles from Gardiner; altitude 7,850 feet. Camp sites are opposite the soldier station and across Chittenden Bridge. A special camp site for private automobile parties is located opposite the soldier station. The road to the right leads to Lower Falls, to the northern side of the Grand Canyon, the Canyon Hotel, and Mount Washburn. There is good fishing in Yellowstone River and Cascade Creek.

GRAND CANYON.

If the canyon is to be viewed from the northern rim, the road to the right is taken. A high, steel bridge is crossed over Cascade Creek. At the east end of the bridge a path leads to the right down the edge of the gulch to *Crystal Falls*, a lovely little falls, that is often overlooked in the presence of the larger attractions. This path can be followed to top of the Lower Falls of the Yellowstone, 308 feet high, but is dangerous. Another path from the end of the bridge leads to the left; this is a short cut to the Canyon Hotel. The main road winds up the hill, affording here and there glimpses of the Grand Canyon. At the top of the hill are the stairs to the *Lower Falls*. A

few hundred feet farther the branch road to the hotel and to Mount Washburn turns out to the left.

On the road about 1 mile from Canyon Junction is *Lookout Point*, reached by walking a hundred feet out to the right of the road.



SKETCH MAP OF GRAND CANYON.

Down the gulch to the right of Lookout Point is a rather steep trail leading to *Red Rock*, a fine point from which to view the Lower Falls. *Grand View* and *Castle Ruins* are other good points from which to view the canyon.

But better yet is *Inspiration Point*, at the end of this road. This point, Artists Point, Lookout Point, and the edge of the Lower Falls are the best places from which to view the wonders of the canyon. The view from each is different from the others, and each merits a careful inspection from the tourist. This canyon is some 20 miles in length, but it is only the first 3 miles below the Lower Falls that carry these wonderful colors. This is due to the fact that in times gone by fumes rising from hot springs deep in the ground have risen through the rhyolite rock of this 3-mile section until the rock has been decomposed and changed. The remainder of the canyon has not been acted on by the hot-spring fumes and hence retains its dark gray walls.

A short distance from Inspiration Point, on the east side of and close to the road, is the *Glacier Bowlder*, not by any means the only glacier bowlder in the park, but the most striking example of this force. This bowlder must have been brought a distance of at least 20 miles by the ancient glacier that carried it and dropped it here for the wonder of the tourist.

GRAND CANYON TO GARDINER VIA NORRIS.

On the road from Canyon Junction to Norris there is a steep hill for the first mile and then the road winds through timber-covered rolling country to *Virginia Meadows*, altitude 7,765 feet, 7 miles from Canyon Junction, where there is a camp site and the fishing is good. This is the only camping ground between Canyon Junction and Norris. At the lower end of the meadow Gibbon River is crossed and the road continues down its north bank past the Virginia Cascades to Norris Geyser Basin, 11 miles from Canyon Junction.

NORRIS TO GARDINER.

The tourist returns over the road described on pages 31 to 33 and 26 to 27.

GRAND CANYON TO MAMMOTH HOT SPRINGS VIA MOUNT WASHBURN AND TOWER FALLS.

In honor of Gen. Hiram M. Chittenden, the engineer officer to whom the excellence of the present park roads is largely due, the road from Canyon Junction to the top of Mount Washburn is known as the "Chittenden Road." It is usually not free from snow until after July 1. It leads up past the hotel and the hotel barns. Camping places are scattered all along this road, the best being *Dunraven Pass*, 7 miles from Canyon Junction, at an altitude of 8,800 feet. These are not very good, owing to lack of water, the first water to be

counted on being at Tower Creek, 17 miles from Canyon Junction by Dunraven Pass Road and 20 miles by road over Mount Washburn.

At *Dunraven Pass* the road forks; the road to the left is the direct road to Tower Falls, shorter and avoiding the heavy grades of Mount Washburn, that to the right leading to the top of *Mount Washburn* (wagons can be driven to the extreme top and down the northern side). It is well to get up Mount Washburn as early in the day as possible, on account of the heavy winds that spring up later. The climb is long, but the views constantly unfurling as the tourist rises are unrivaled, and the time taken in the slow climb is put to good advantage by the sight-seer. The view from the top of Mount Washburn, altitude 10,000 feet, is equaled only by that from Electric Peak and Mount Sheridan, both of which are as yet too inaccessible to be climbed readily.

Beyond Mount Washburn the road enters an open country free from heavy timber, and so affords numberless opportunities to view the surrounding region. The grade is a steadily descending one to Tower Creek, altitude 6,400 feet. A bridle path bears to the right just before reaching the steel bridge across Tower Creek and leads to the bottom of the canyon below *Tower Falls*, 132 feet high. About one-fourth mile after passing Tower Creek bridge, a footpath leads down to the brink of Tower Falls. The two columnar walls in the sides of the canyon across the Yellowstone should be noted. Fishing in the river at this point is good.

The next camp site is near the soldier station, 2 miles farther on. The road after leaving Tower Creek passes first the towers, or minarets, that give this section its name; then passes close to a wonderful cliff of columnar basalt that overhangs the road. This is the famous *Overhanging Cliff*. Shortly after the *Needle* is reached. This is a long, slender spire that starts at the river's edge and mounts up nearly 300 feet.

Shortly after the bottom of the long descent from Mount Washburn is reached, 2 miles from Tower Falls. Here a branch road leads to the left to "Camp Roosevelt," and one to the right to the main buffalo corral, 12 miles, and to *Soda Butte*, 17 miles. There is a very pretty walk back of Camp Roosevelt up through *Lost Creek Canyon* and past *Lost Creek Falls*. Next is the soldier station. The next camp site is 1 mile farther, where a road bears off to the left to the *Petrified Trees*, one-half mile from the main road. The next good camp site is at Blacktail Deer Creek, 10 miles farther.

After leaving Petrified Trees Junction the road climbs a hill 3 miles long, then traverses *Crescent Gulch* to the *Blacktail Deer Divide*, from which point there is a long, steady descent to Gardiner River, within 2 miles of Mammoth Hot Springs.

At *Blacktail Deer Creek* is a good camp site, and there is good fishing for native and rainbow trout. A trail to the right, just beyond the bridge, leads to Yellowstone River, 3 miles away, where there is more good fishing.

A mile and a half beyond this creek the road crosses *Lava Creek*, and a few hundred yards below is Undine Falls (60 feet), remarkable for the development of basalt in the walls of its canyon (East Gardiner or Lava Creek Canyon). It is 5 miles from Mammoth Hot Springs, and there is a good camp site. Good fishing for native and eastern brook trout.

At *Gardiner River*, 18 miles from Tower Falls, the road crosses on the highest and longest steel bridge in the park, 2 miles from Mammoth Hot Springs.

YELLOWSTONE, MONT. (WESTERN ENTRANCE), TO LOOP ROAD.

Yellowstone, Mont., is the terminus of Oregon Short Line Railway, and is the western entrance to the park. Guides, outfits, and supplies for park trips can be secured. This is the post office for tourists entering and leaving via the western entrance.

The road lies up *Madison River* to the junction of *Gibbon* and *Firehole Rivers* (13 miles), where one road leads to the right up *Firehole River* toward *Fountain* and the other road leads to the left up *Gibbon River* toward *Norris*. At *Yellowstone* the road lies through a level country, and, as the river ascended, low hills appear on either side. They increase in height as the river is ascended until they culminate in *Mount Burley* on the right and *Purple Mountain* on the left. Camp sites occur 3 miles, $7\frac{1}{2}$ miles, 12 miles, and 13 miles from *Yellowstone*. There is fine fishing at all points for trout.

On the right fork the loop road is reached at *Firehole Cascades*, 16 miles from *Yellowstone* and $5\frac{1}{2}$ miles from *Fountain*. Going up the left fork the loop road is reached near *Wylie's Camp*, 17 miles from *Yellowstone*, 10 miles from *Norris*.

CODY, WYO., VIA EASTERN ENTRANCE TO LOOP ROAD.

Cody, Wyo., is the terminus of a branch line of the Chicago, Burlington & Quincy Railroad. It is located 63 miles from the eastern entrance of the park. The Cody-Sylvan Pass Motor Co. operates automobile stages daily beginning July 1 between *Cody* and *Lake Hotel*. Guides, outfits, and supplies may be secured here. Camping parties from *Cody* would do well to carry with them feed and forage enough for the first 40 miles, as most of the available space is occupied by farms and ranches. After this point is gained

there are frequent camp sites to the park boundary. This road leads over a high and snowy pass that is seldom open before July 1. Road lies up the *Shoshone River* through the picturesque valley and canyon of the Shoshone and then up *Middle Creek* to *Sylvan Pass*.

At the eastern entrance is located a soldier station and 1 mile farther is a good camping site. On both Shoshone River and Middle Creek there is good fishing for native trout. The next camp site is at *Sylvan Lake*, 9 miles farther. At *Sylvan Pass*, altitude 8,650 feet, 8 miles from eastern boundary, the road leaves Middle Creek and passes between high frowning cliffs on either side.

Two beautiful small lakes are passed, the first being *Lake Eleanor* and the second *Sylvan Lake*, a dainty little sheet of water, set in the midst of heavy timber, surrounded by high and rugged peaks. *Sylvan Lake* is 9 miles from the eastern boundary and its altitude is 8,350 feet. At this point is a camp site; the next one is at *Cub Creek*, 4 miles farther. There is another camp site 4 miles beyond *Cub Creek*.

Turbid Lake, altitude 7,900 feet, 20 miles from the eastern boundary, has a camp site at its southern end. This lake is remarkable for the innumerable hot springs and steam openings in its bottom and along its shores. These springs keep the water more or less agitated and muddy, but there is good water for camp purposes in *Bear Creek*, flowing into Turbid Lake from the southeast. The next camp site is at *Indian Pond*, near the north shore of the Yellowstone Lake, 3 miles farther and 5 miles from Lake Hotel. The junction point of this road and the Loop Road is nearly 2 miles north of the Lake Hotel and 26 miles from the eastern boundary of the park.

MORAN, WYO., VIA SOUTHERN ENTRANCE TO LOOP ROAD.

Moran, Wyo., is located on Jackson Lake, 25 miles south of the southern boundary of Yellowstone Park. From Moran to the southern boundary the road lies to the east of *Jackson Lake* and *Snake River*. There are numerous camp sites along this section of the road.

At the southern entrance, altitude 6,850 feet, is the soldier station. A good camp site is near and there is good fishing for whitefish, native, *Loch Leven*, and lake trout in Lewis and Snake Rivers. Next camp site is 8 miles farther on.

Moose Falls is on *Crawfish Creek*, 1 mile north of southern boundary and 100 yards east of road. The road leads over the hills west of and parallel with the *Lewis River* to *Lewis Falls* (upper, 80 feet high; lower, 50 feet high), altitude 7,650 feet, 9 miles from south boundary. While climbing the hill through the burned section the tourist should

look back at the Teton Mountains to the south. A good camp site is just north of Lewis Falls, on *Aster Creek*, up which the road turns. The next camp site is at the north end of *Lewis Lake*, 4 miles farther on.

Lewis Lake, altitude 7,720 feet, is a heart-shaped lake, 3 miles north and south by 2 miles wide, lying to the west of *Mount Sheridan*. It has an extensive hot springs basin on its northwestern shore. Lewis River, which rises in *Shoshone Lake* farther north, flows through this lake on its way to Snake River. There is good fishing in Lewis Lake and its inlet for lake trout. The next camp sites after leaving Lewis Lake are 2 miles north and 7 miles north.

From Lewis Lake the road climbs gradually up the *Continental Divide*, altitude 8,000 feet, and then drops down to Yellowstone Lake, a mile and a half south of the Thumb, 23 miles from the southern boundary of the park.

TOWER FALLS TO BUFFALO FARM, SODA BUTTE, AND COOKE, MONT.

Two hundred yards east of Tower Falls Soldier Station, 18 miles from Mammoth Hot Springs, the wagon road to the mining town of Cooke, Mont., branches off from the Mount Washburn road northeast across the flat. Good camp sites are frequent and there is good fishing for native trout to Soda Butte. The Yellowstone River is crossed on the longest single-span steel bridge in the park. Junction Butte is on the right. The road runs across open, grassy flats, strewn with granite boulders dropped by the glacier, to the bridge across Lamar River, 23 miles from Mammoth Hot Springs. Two miles beyond the bridge the Lamar Canyon is entered. Here the smooth, round, glacier boulders lie piled in immense masses.

Leaving the canyon the road passes up the north side of the upper Lamar Valley, past the Buffalo Farm (30 miles from Mammoth Hot Springs), where 232 head of buffalo (bison) are maintained by the Government. Five miles beyond the road leaves the Lamar Valley and turns northeast up the Soda Butte Valley. As one ascends this valley, he is treated to some of the finest mountain scenery in the park. Soda Butte, an old hot spring or geyser cone so named by the old trappers, lies alongside the road on the right, 36 miles from Mammoth Hot Springs, with the soldier station on the left. Good camp sites continue frequently for 5 miles beyond the Butte, the next good camp site being 10 miles beyond the Butte. The northeast boundary is crossed (53 miles from Mammoth Hot Springs) in the midst of a heavy forest, 3 miles before reaching Cooke. From Soda Butte the road follows up Soda Butte Creek through the heart of magnificent mountain scenery.

PROMINENT GEYSERS AND SPRINGS.

The most important geysers and springs are listed below.

Prominent geysers and springs.

[Based upon observations, season 1915.]

NORRIS BASIN.

Name.	Height of eruption. Feet.	Duration of eruption.	Interval between eruptions.	Remarks.
Black Growler.....				Steam vent only.
Constant.....	15-35	5 to 15 seconds.....	20 to 55 seconds.....	
Congress Pool.....				Large boiling spring.
Echinus.....	30	3 minutes.....	45 to 50 minutes.....	
Emerald Pool.....				Beautiful hot spring.
Hurricane.....	6-8			Continuous.
Minute Man.....	8-15	15 to 30 seconds.....	1 to 3 minutes.....	Sometimes quiet for long periods.
Monarch.....	100-125	6 minutes.....	Irregular.....	
New Crater.....	6-25	1 to 4 minutes.....	2 to 5 minutes.....	
Valentine.....	60	15 to 60 minutes.....	Irregular.....	

LOWER BASIN.

Black Warrior.....		Continuous.....		Small but interesting geysers.
White Dome.....	10	1 minute.....	40 to 60 minutes.....	
Clepsydra.....	10-40	Few seconds.....	3 minutes.....	
Fountain Geyser.....				Seldom in eruption.
Firehole Lake.....				Peculiar phenomena.
Great Fountain.....	75-150	45 to 60 minutes.....	8 to 12 hours.....	Spouts 4 or 5 times.
Mammoth Paint Pots.....				Basin of boiling clay.
Excelsior.....	200-300	About $\frac{1}{2}$ hour.....		Ceased playing in 1888.
Prismatic Lake.....				Size about 250 by 400 feet; remarkable coloring.
Turquoise Spring.....				About 100 feet in diameter.

UPPER BASIN.

Artemisia.....	50	10 to 15 minutes.....	24 to 30 hours.....	Varies.
Atomizer.....	2			
Bee Hive.....	200	6 to 8 minutes.....	3 to 5 times at 12-hour intervals following Giantess.	
Cascade.....				Quiet again.
Castle.....	50-75	30 minutes.....	24 to 26 hours.....	Quiet 4 to 7 days, then plays 3 or 4 times at intervals stated.
Cub, large.....	60	8 minutes.....	With Lioness.....	Short chimneys to Lion and Lioness.
Cub, small.....	10-30	17 minutes.....	2 $\frac{1}{2}$ hours.....	
Daisy.....	70	3 minutes.....	85 to 90 minutes.....	
Economic.....	20	Few seconds.....		Seldom in eruption.
Fan.....	15-25	10 minutes.....	Irregular.....	
Giant.....	200-250	60 minutes.....	6 to 14 days.....	
Giantess.....	150-200	12 to 36 hours.....	Irregular, 5 to 40 days.	
Grand.....	200	15 to 30 minutes.....	Irregular, 1 to 2 days.	Frequent during 1915.
Grotto.....	20-30	Varies.....	2 to 5 hours.....	
Jewel.....	5-20	About 1 minute.....	5 minutes.....	
Lion.....	50-60	About 2 to 4 minutes	Irregular.....	Usually 2 to 17 times a day.
Lioness.....	80-100	About 10 minutes.....	do.....	Played once in 1910, once in 1912, and once early in 1914.
Mortar.....	30	4 to 6 minutes.....	do.....	
Oblong.....	20-40	7 minutes.....	8 to 15 hours.....	
Old Faithful.....	120-170	4 minutes.....	60 to 95 minutes.....	Usual interval 75 minutes.
Riverside.....	80-100	15 minutes.....	6 hours.....	Very regular.
Sawmill.....	20-35	1 to 3 hours.....	Irregular.....	Usually 5 to 8 times a day.
Spasmodic.....	4	20 to 60 minutes.....	do.....	Usually 1 to 4 times a day.
Splendid.....	200	10 minutes.....		Not played since 1892.
Turban.....	20-40	10 minutes to 3 hours	Irregular.....	

Notable springs:

Black Sand Spring (about 55 by 60 feet).
Chinaman.
Emerald Pool.

Notable springs—Continued.

Morning Glory.
Punch Bowl.
Sponge.
Sunset Lake.

NOTES ON FISH.

Blackspotted or cut-throat trout (Salmo Mykiss).—Native to many park waters. Without doubt reached Upper Yellowstone and Yellowstone Lake from Pacific slope through Two-Ocean Pass during high water in spring.

Whitefish (Coregonus clupeiformis).—Native to Yellowstone River below falls, and Gardiner, Madison, and Gallatin Rivers. Planted in Yellowstone River above the falls.

Grayling (Thymallus Ontariensis Montanus).—Native to Madison and Gallatin Rivers and branches.

Eastern brook trout (Salvelinus fontanalis).—Planted.

Loch Leven trout (Salmo Trutti levensis).—Planted.

Von Behr (German brown) trout (Salmo Fario).—Planted.

Rainbow trout (Salmo Irideus).—Planted.

Lake trout (Cristivomer Namaycush).—Planted.

Land-locked salmon and black bass have been planted in the park, but apparently did not thrive, as they have never been heard from since they were planted.

WILD ANIMALS.

Wild elk, deer, and antelope are numerous in the park; and moose, bison, mountain sheep, black, brown, and grizzly bears, wolves, coyotes, mountain lions, and the smaller fur-bearing animals are found.

Bears are seen daily in summer at garbage dumps near all hotels and camps, but most of the other wild animals live high up in the mountains or in remote parts of the park during the summer, and tourists who see any of them may consider themselves fortunate, unless they are willing to take the time to visit the summer habitats of the game.

In winter, elk, mule deer, and white-tailed deer, antelope, and mountain sheep may be viewed at close quarters along the northern line of the park, and a lover of wild animals would be well repaid for taking a trip to Gardiner and Fort Yellowstone to see them.

BIRDS.

Many varieties of song birds are found in the park in summer, though they can hardly be said to be numerous. Ducks, geese, and other waterfowl are quite numerous and tame, and many of them are seen in winter as well as in summer in streams that are fed by hot springs and consequently never freeze.

Species marked with an asterisk (*) have been previously recorded from Yellowstone Park.

ORDER PYGOPODES. DIVING BIRDS.

Family COLYMBIDAE. Grebes.

- Western Grebe. *Aechmophorus occidentalis*. Uncommon migrant.
- * Horned Grebe. *Colymbus auritus*. Rare migrant.
- * American eared Grebe. *Colymbus nigricollis californicus*. Common summer resident.
- * Pied-billed Grebe. *Podilymbus podiceps*. Migrant; not common.

Family GAVIIDAE. Loons.

- Loon. *Gavia immer*. Rare migrant.

ORDER LONGIPENNES. LONG-WINGED SWIMMERS.

Family LARIDAE. Gulls and Terns.

- California Gull. *Larus californicus*. Common summer resident.
- *Ring-billed Gull. *Larus delawarensis*. Summer resident; common.
- Bonaparte Gull. *Larus philadelphia*. Rare migrant.
- *Black Tern. *Hydrochelidon nigra surinamensis*. Rare migrant.

ORDER STEGANOPODES. TOTIPALMATE SWIMMERS.

Family PELECANIDAE. Pelicans.

- *White Pelican. *Pelecanus erythrorhynchos*. Abundant summer resident.

ORDER ANSERES. LAMELLIROSTRAL SWIMMERS.

Family ANATIDAE. Ducks, Geese, and Swans.

- *American Merganser. *Mergus americanus*. Common summer resident.
- Red-breasted Merganser. *Mergus serrator*. Occasional migrant.
- *Mallard. *Anas platyrhyncha*. Abundant resident.
- Gadwall. *Chaulelasmus streperus*. Common summer resident.
- Baldpate. *Mareca americana*. Rare migrant.
- Green-winged Teal. *Nettion carolinense*. Common summer resident.
- *Blue-winged Teal. *Querquedula discors*. Abundant summer resident.
- Cinnamon Teal. *Querquedula cyanoptera*. Occasional summer resident.
- Shoveller. *Spatula clypeata*. Common summer resident.
- *Pintail. *Dafila acuta*. Rare migrant.
- *Wood Duck. *Aix sponsa*. Rare summer resident.
- Redhead. *Marila americana*. Common migrant.
- Canvas-back. *Marila valisineria*. Not common migrant.
- Scaup Duck. *Marila marila*. Common migrant.
- Lesser Scaup Duck. *Marila affinis*. Common summer resident.
- American Golden-eye. *Clangula clangula americana*. Abundant migrant.
- Barrow Golden-eye. *Clangula islandica*. Resident.
- *Bufflehead. *Charitonetta albovula*. Common migrant.
- Harlequin Duck. *Histrionicus histrionicus*. Rare migrant.

- Scoter. *Oidemia americana*. Rare migrant.
 *White-winged Scoter. *Oidemia deglandi*. Rare migrant.
 Ruddy Duck. *Erismatura jamaicensis*. Common summer resident.
 *Snow Goose. *Chen hyperborea hyperborea*. Occasional migrant.
 *Canada Goose. *Branta canadensis canadensis*. Abundant resident.
 Hutchins Goose. *Branta canadensis hutchinsi*. Rare migrant.
 *Whistling Swan. *Olor columbianus*. Common migrant.
 *Trumpeter Swan. *Olor buccinator*. Rare migrant.

ORDER HERODIONES. HERONS, STORKS, IBISES, ETC.

Family ARDEIDAE. Herons, Bitterns, etc.

- *Great Blue Heron. *Ardea herodias herodias*. Tolerably common summer resident.
 Black-crowned Night Heron. *Nycticorax nycticorax naevius*. Rare migrant.

ORDER PALUDICOLAE. CRANES, RAILS, ETC.

Family GRUIDAE. Cranes.

- Whooping Crane. ^{*}*Grus Americana*. Very rare migrant.
 *Sandhill Crane. *Grus mexicana*. Rare migrant.

Family RALLIDAE. Rails, Gallinules, and Coots.

Coot. *Fulica americana*. Abundant summer resident.

ORDER LIMICOLAE. SHORE BIRDS.

Family PHALAROPODIDAE. Phalaropes.

- Northern Phalarope. *Lobipes lobatus*. Rare fall migrant.
 Wilson Phalarope. *Steganopus tricolor*. Common summer resident.

Family RECURVIROSTRIDAE. Avocets and Stilts.

- *American Avocet. *Recurvirostra americana*. Rare migrant.

Family SCOLOPACIDAE. Snipes, Sandpipers, etc.

- *Wilson Snipe. *Gallinago delicata*. Occasional summer resident.
 *Baird Sandpiper. *Pisobia bairdii*. Tolerably common migrant.
 Least Sandpiper. *Pisobia minutilla*. Occasional fall migrant.
 *Greater Yellow-legs. *Totanus melanoleucus*. Rare migrant.
 *Yellow-legs. *Totanus flavipes*. Migrant; not common.
 *Western Solitary Sandpiper. *Helodromas solitarius cinnamomeus*. Rare migrant.
 *Western Willet. *Catoptrophorus semipalmatus inornatus*. Rare migrant.
 *Spotted Sandpiper. *Actitis macularia*. Abundant summer resident.
 Long-billed Curlew. *Numenius americanus*. Rare migrant.

Family CHARADRIIDAE. Plovers.

*Killdeer. *Oxyechus vociferus vociferus*. Abundant summer resident.

ORDER GALLINAE. GALLINACEOUS BIRDS.

Family TETRAONIDAE. Grouse, etc.

Franklin Grouse. *Canachites franklinii*. Rare resident.

*Richardson Grouse. *Dendragapus obscurus richardsonii*. Common resident.

*Gray Ruffed Grouse. *Bonasa umbellus umbelloides*. Common resident.

Columbian Sharp-tailed Grouse. *Pediocetes phasianellus columbianus*. Rare resident.

Sage Grouse. *Centrocercus urophasianus*. Rare resident.

ORDER COLUMBAE. PIGEONS.

Family COLUMBIDAE. Pigeons.

*Western Mourning Dove. *Zenaidura macroura marginella*. Common summer resident.

ORDER RAPTORES. BIRDS OF PREY.

Family BUTEONIDAE. Hawks, Eagles, Kites, etc.

*Marsh Hawk. *Circus hudsonius*. Abundant summer resident.

*Sharp-shinned Hawk. *Accipiter velox*. Common summer resident.

Cooper Hawk. *Accipiter cooperii*. Occasional summer resident.

Western Goshawk. *Astur atricapillus striatulus*. Occasional visitor.

*Western Red-tail. *Buteo borealis calurus*. Common summer resident.

*Swainson Hawk. *Buteo swainsoni*. Common summer resident.

*Rough-legged Hawk. *Archibuteo lagopus sanctijohannis*. Rare migrant.

Ferruginous Rough-leg. *Archibuteo ferrugineus*. Rare summer resident.

*Golden Eagle. *Aquila chrysaëtos*. Rare resident.

*Bald Eagle. *Haliaeetus leucocephalus*. Occasional summer resident.

Family FALCONIDAE. Falcons, etc.

Prairie Falcon. *Falco mexicanus*. Rare summer resident.

*Duck Hawk. *Falco peregrinus anatum*. Rare summer resident.

*Pigeon Hawk. *Falco columbarius columbarius*. Rare migrant.

*Desert Sparrow Hawk. *Falco sparverius phalaeno*. Abundant summer resident.

Family PANDIONIDAE. Ospreys.

*Osprey. *Pandion haliaetus carolinensis*. Common summer resident.

Family STRIGIDAE. Horned Owls, etc.

*Long-eared Owl. *Asio wilsonianus*. Rare resident.

Short-eared Owl. *Asio flammeus*. Not common migrant.

Rocky Mountain Screech Owl. *Otus asio maxwelliae*. Rare resident.

- *Western Horned Owl. *Bubo virginianus pallescens*. Common resident.
- *American Hawk Owl. *Surnia ulula caparoch*. Occasional.
- Pygmy Owl. *Glaucidium gnoma pinicola*. Occasional resident.

ORDER COCCYGES. CUCKOOS, ETC.

Family ALCEDINIDAE. Kingfishers.

- *Belted Kingfisher. *Ceryle alcyon alcyon*. Common summer resident.

ORDER PICI. WOODPECKERS, ETC.

Family PICIDAE. Woodpeckers.

- *Rocky Mountain Hairy Woodpecker. *Dryobates villosus monticola*. Common resident.
- *Batchelder Woodpecker. *Dryobates pubescens homorus*. Resident; not common.
- *Arctic Three-toed Woodpecker. *Picoides arcticus*. Rare resident.
- *Alpine Three-toed Woodpecker. *Picoides americanus dorsalis*. Rare resident.
- Red-naped Sapsucker. *Sphyrapicus varius nuchalis*. Common summer resident.
- *Williamson Sapsucker. *Sphyrapicus thyroideus*. Common summer resident.
- *Red-headed Woodpecker. *Melanerpes erythrocephalus*. Uncommon summer resident.
- *Lewis Woodpecker. *Asyndesmus lewisi*. Common summer resident.
- *Red-shafted Flicker. *Colaptes cafer collaris*. Abundant summer resident.

ORDER MACROCHIRES. GOATSUCKERS, SWIFTS, ETC.

Family CAPRIMULGIDAE. Goatsuckers.

- *Western Nighthawk. *Chordeiles virginianus hesperis*. Common summer resident.

Family MICROPODIDAE. Swifts.

- *White-throated Swift. *Aeronautus melanoleucus*. Occasional summer resident.

Family TROCHILIDAE. Hummingbirds.

- Rufous Hummingbird. *Selasphorus rufus*. Rare summer resident.
- *Calliope Hummingbird. *Stellula calliope*. Occasional summer resident.

ORDER PASSERES. PERCHING BIRDS.

Family TYRANNIDAE. Tyrant flycatchers.

- *Kingbird. *Tyrannus tyrannus*. Occasional summer resident.
- *Arkansas Kingbird. *Tyrannus verticalis*. Occasional summer resident.
- Say Phoebe. *Sayornis sayus*. Occasional summer resident.
- *Olive-sided Flycatcher. *Nuttallornis borealis*. Common summer resident.
- *Western Wood Pewee. *Myiochanes richardsonii richardsonii*. Occasional summer resident.

- Western Flycatcher. *Empidonax difficilis difficilis*. Common summer resident.
 *Traill Flycatcher. *Empidonax traillii traillii*. Tolerably common summer resident.
 Hammond Flycatcher. *Empidonax hammondii*. Rare summer resident.
 Wright Flycatcher. *Empidonax wrightii*. Abundant summer resident.

Family ALAUDIDAE. Larks.

- Hoyt Horned Lark. *Otocoris alpestris hoyti*. Rare winter visitant.
 *Desert Horned Lark. *Otocoris alpestris leucolaema*. Common summer resident.

Family CORVIDAE. Crows, Jays, Magpies, etc.

- *American Magpie. *Pica pica hudsonia*. Common resident.
 *Black-headed Jay. *Cyanocitta stelleri annectens*. Common resident.
 *Rocky Mountain Jay. *Perisoreus canadensis capitalis*. Common resident.
 *American Raven. *Corvus corax sinuatus*. Abundant resident.
 *Western Crow. *Corvus brachyrhynchos hesperis*. Not common summer resident.
 *Clark Nutcracker. *Nucifraga columbiana*. Abundant resident.

Family ICTERIDAE. Blackbirds, Orioles, etc.

- *Cowbird. *Molothrus ater ater*. Rare summer resident.
 Yellow-headed Blackbird. *Xanthocephalus xanthocephalus*. Occasional summer resident.
 Thick-billed Red-wing. *Agelaius phoeniceus fortis*. Occasional summer resident.
 *Western Meadowlark. *Sturnella neglecta*. Abundant summer resident.
 *Bullock Oriole. *Icterus bullockii bullockii*. Summer resident; not common.
 *Brewer Blackbird. *Euphagus cyanocephalus*. Abundant summer resident.

Family FRINGILLIDAE. Finches, Sparrows, etc.

- Western Evening Grosbeak. *Hesperiphona vespertina montana*. Accidental.
 Rocky Mountain Pine Grosbeak. *Pinicola enucleator montana*. Occasional migrant.
 *Cassin Purple Finch. *Carpodacus cassini*. Common summer resident.
 *Crossbill. *Loxia curvirostra minor*. Tolerably common resident.
 White-winged Crossbill. *Loxia leucoptera*. Rare migrant.
 Gray-crowned Rosy Finch. *Leucosticte tephrocotis tephrocotis*. Occasional winter resident.
 Hepburn Rosy Finch. *Leucosticte tephrocotis littoralis*. Common winter resident.
 Black Rosy Finch. *Leucosticte atrata*. Rare winter visitor.
 Redpoll. *Acanthis linaria linaria*. Occasional winter visitor.
 *Pale Goldfinch. *Astragalinus tristis pallidus*. Rare summer resident.
 *Pine siskin. *Spinus pinus pinus*. Abundant summer resident.
 English sparrow. *Passer domesticus*. Common about Fort Yellowstone.
 Snowflake. *Plectrophenax nivalis nivalis*. Rare migrant.
 Alaskan Longspur. *Calcarius lapponicus alascanus*. Rare migrant.
 *Western Vesper Sparrow. *Pooecetes gramineus confinis*. Abundant summer resident.

- Nevada Savannah Sparrow. *Passerculus sandwichensis nevadensis*. Common summer resident.
- *Western Lark Sparrow. *Ghondestes grammacus strigatus*. Rare summer resident.
- *White-crowned Sparrow. *Zonotrichia leucophrys leucophrys*. Abundant summer resident.
- *Gambel Sparrow. *Zonotrichia leucophrys gambelii*. Common migrant.
- White-throated Sparrow. *Zonotrichia albicollis*. Rare migrant.
- Western Tree Sparrow. *Spizella monticola ochracea*. Common winter visitant.
- *Western Chipping Sparrow. *Spizella passerina arizonae*. Common summer resident.
- Brewer Sparrow. *Spizella breweri*. Rare summer resident.
- Intermediate Junco. *Junco hyemalis connectens*. Common migrant.
- Montana Junco. *Junco hyemalis montanus*. Migrant.
- *Pink-sided Junco. *Junco hyemalis mearnsi*. Abundant summer resident.
- Gray-headed Junco. *Junco phaeonotus caniceps*. Rare summer resident.
- *Mountain Song Sparrow. *Melospiza melodia montana*. Common summer resident.
- Lincoln Sparrow. *Melospiza lincolni lincolni*. Common summer resident.
- Slate-colored Fox Sparrow. *Passerella iliaca schistacea*. Rare summer resident.
- *Green-tailed Towhee. *Oreospiza chlorura*. Rare summer resident.
- *Lazuli Bunting. *Passerina amoena*. Occasional summer resident.

Family TANGARIDAE. Tanagers.

- *Western Tanager. *Piranga ludoviciana*. Common summer resident.

Family HIRUNDINIDAE. Swallows.

- *Cliff Swallow. *Petrochelidon lunifrons lunifrons*. Common summer resident.
- *Barn Swallow. *Hirundo erythrogaster*. Summer resident; not common.
- *Tree Swallow. *Iridoprocne bicolor*. Common summer resident.
- *Northern Violet-green Swallow. *Tachycineta thalassina lepida*. Common summer resident.
- Bank Swallow. *Riparia riparia*. Common summer resident.
- Rough-winged Swallow. *Stelgidopteryx serripennis*. Rare summer resident.

Family BOMBYCILLIDAE. Waxwings.

- Bohemian Waxwing. *Bombycilla garrula*. Occasional migrant.
- Cedar Waxwing. *Bombycilla cedrorum*. Rare migrant.

Family LANIIDAE. Shrikes.

- Northern Shrike. *Lanius borealis*. Occasional winter resident.
- White-rumped Shrike. *Lanius ludovicianus excubitorides*. Occasional summer resident.

Family VIREONIDAE. Vireos.

- *Western Warbling Vireo. *Vireosylva gilva swainsonii*. Common summer resident.

Family MNIOTILTIDAE. Wood warblers.

- Nashville Warbler. *Vermivora rubricapilla gutturalis*. Accidental.
 Orange-crowned Warbler. *Vermivora celata celata*. Occasional summer resident.
 *Yellow Warbler. *Dendroica aestiva aestiva*. Occasional summer resident.
 Myrtle Warbler. *Dendroica coronata*. Occasional migrant.
 *Audubon Warbler. *Dendroica auduboni*. Abundant summer resident.
 Townsend Warbler. *Dendroica townsendi*. Occasional migrant.
 *Macgillivray Warbler. *Oporornis tolmiei*. Occasional summer resident.
 Western Yellowthroat. *Geothlypis trichas occidentalis*. Common summer resident.
 *Pileolated Warbler. *Wilsonia pusilla pileoata*. Common summer resident.

Family MOTACILLIDAE. Wagtails and Pipits.

- *Pipit. *Anthus rubescens*. Abundant migrant; possibly also a summer resident.

Family CINCLIDAE. Dippers.

- *Dipper. *Cinclus mexicanus unicolor*. Abundant resident.

Family MIMIDAE. Thrashers, Mockingbirds, etc.

- *Sage Thrasher. *Oreoscoptes montanus*. Common summer resident.
 *Catbird. *Dumetella carolinensis*. Rare migrant; possibly summer resident.

Family TROGLODYTIDAE. Wrens.

- *Rock Wren. *Salpinctes obsoletus obsoletus*. Common resident.
 *Western House Wren. *Troglodytes aedon parkmani*. Summer resident; locally common.
 *Western Marsh Wren. *Telmatodytes palustris plesius*. Occasional

Family CERTHIDAE. Creepers.

- *Rocky Mountain Creeper. *Certhia familiaris montana*. Occasional summer resident.

Family SITTIDAE. Nuthatches.

- *Rocky Mountain Nuthatch. *Sitta carolinensis nelsoni*. Rare resident.
 *Red-breasted Nuthatch. *Sitta canadensis*. Common summer resident.
 Pygmy Nuthatch. *Sitta pygmaea pygmaea*. Rare visitor.

Family PARIDAE. Titmice.

- *Long-tailed Chickadee. *Penthestes atricapillus septentrionalis*. Rare resident.
 *Mountain Chickadee. *Penthestes gambeli gambeli*. Abundant resident.

Family SYLVIIDAE. Kinglets.

- *Western Golden-crowned Kinglet. *Regulus satrapa olivaceus*. Occasional summer resident.
 *Ruby-crowned Kinglet. *Regulus calendula calendula*. Occasional summer resident.

Family TURDIDAE. Thrushes, Bluebirds, etc.

*Townsend Solitaire. *Myadestes townsendii*. Common resident.

Willow Thrush. *Hylocichla fuscescens salicicola*. Rare summer resident.

Olive-backed Thrush. *Hylocichla ustulata swainsoni*. Occasional summer resident.

Audubon Hermit Thrush. *Hylocichla guttata auduboni*. Occasional summer resident.

*Western Robin. *Planesticus migratorius propinquus*. Abundant summer resident.

Western Bluebird. *Sialia mexicana occidentalis*. Accidental.

*Mountain Bluebird. *Sialia currucoides*. Abundant summer resident.

RULES AND REGULATIONS.

GENERAL REGULATIONS APPROVED MAY 27, 1911.

The following rules and regulations for the government of the Yellowstone National Park are hereby established and made public pursuant to authority conferred by section 2475, Revised Statutes, United States, and the act of Congress approved May 7, 1894:

1. It is forbidden to remove or injure the sediments or incrustations around the geysers, hot springs, or steam vents; or to deface the same by written inscriptions or otherwise; or to throw any substance into the springs or geyser vents; or to injure or disturb in any manner or to carry off any of the mineral deposits, specimens, natural curiosities, or wonders within the park.

2. It is forbidden to ride or drive upon any of the geyser or hot-spring formations, or to turn stock loose to graze in their vicinity.

3. It is forbidden to cut or injure any growing timber. Camping parties will be allowed to use dead or fallen timber for fuel. When felling timber for fuel, or for building purposes when duly authorized, stumps must not be left higher than 12 inches from the ground.

4. Fires shall be lighted only when necessary, and completely extinguished when not longer required. The utmost care must be exercised at all times to avoid setting fire to the timber and grass.

5. Hunting or killing, wounding, or capturing any bird or wild animal, except dangerous animals when necessary to prevent them from destroying life or inflicting an injury, is prohibited. The outfits, including guns, traps, teams, horses, or means of transportation used by persons engaged in hunting, killing, trapping, ensnaring, or capturing such birds or wild animals, or in possession of game killed in the park under other circumstances than prescribed above, will be forfeited to the United States, except in cases where it is shown by satisfactory evidence that the outfit is not the property of the person or persons violating this regulation, and the actual owner thereof was not a party to such violation. Firearms will only be permitted

in the park on written permission from the supervisor thereof. On arrival at the first station of the park, guard parties having firearms, traps, nets, seines, or explosives will turn them over to the sergeant in charge of the station, taking his receipt for them. They will be returned to the owners on leaving the park.

6. Fishing with nets, seines, traps, or by the use of drugs or explosives, or in any other way than with hook and line, is prohibited. Fishing for purposes of merchandise or profit is forbidden. Fishing may be prohibited by order of the supervisor of the park in any of the waters of the park, or limited therein to any specified season of the year, until otherwise ordered by the Secretary of the Interior.

7. No person will be permitted to reside permanently or to engage in any business in the park without permission, in writing, from the Department of the Interior. The supervisor may grant authority to competent persons to act as guides and revoke the same in his discretion, and no pack trains shall be allowed in the park unless in charge of a duly registered guide.

8. The herding or grazing of loose stock or cattle of any kind within the park, as well as the driving of such stock or cattle over the roads of the park, is strictly forbidden, except in such cases where authority therefor is granted by the Secretary of the Interior. It is forbidden to cut hay within the boundaries of the park excepting for the use of the wild game and such other purposes as may be authorized by the Secretary of the Interior or the park supervisor.

9. No drinking saloon or barroom will be permitted within the limits of the park.

10. Private notices or advertisements shall not be posted or displayed within the park, except such as may be necessary for the convenience and guidance of the public, upon buildings on leased ground.

11. Persons who render themselves obnoxious by disorderly conduct or bad behavior, or who violate any of the foregoing rules, will be summarily removed from the park, and will not be allowed to return without permission in writing from the Secretary of the Interior or the supervisor of the park.

12. It is forbidden to carve or write names or other things on any of the mileposts or signboards or any of the platforms, seats, railings, steps, or any structures or any tree in the park.

Any person who violates any of the foregoing regulations will be deemed guilty of a misdemeanor, and be subjected to a fine as provided by the act of Congress approved May 7, 1894, "to protect the birds and animals in Yellowstone National Park and to punish crimes in said park, and for other purposes," of not more than \$1,000, or

imprisonment not exceeding two years, or both, and be adjudged to pay all costs of the proceedings.

INSTRUCTIONS APPROVED APRIL 15, 1914.

1. The feeding, interference with, or molestation of any bear or other wild animal in the park in any way by any person not authorized by the supervisor is prohibited.

2. *Fires.*—The greatest care must be exercised to insure the complete extinction of all camp fires before they are abandoned. All ashes and unburned bits of wood must, when practicable, be thoroughly soaked with water. Where fires are built in the neighborhood of decayed logs, particular attention must be directed to the extinguishment of fires in the decaying mold. Fire may be extinguished where water is not available by a complete covering of earth, well packed down.

Especial care should be taken that no lighted match, cigar, or cigarette is dropped in any grass, twigs, leaves, or tree mold.

3. *Camps.*—No camp will be made at a less distance than 100 feet from any traveled road. Blankets, clothing, hammocks, or any other article liable to frighten teams must not be hung at a nearer distance than this to the road. The same rule applies to temporary stops, such as for feeding horses or for taking luncheon.

Many successive parties camp on the same sites during the season, and camp grounds must be thoroughly cleaned before they are abandoned. Tin cans must be flattened and, with bottles, cast-off clothing, and all other debris, must be deposited in a pit provided for the purpose. When camps are made in unusual places, where pits may not be provided, all refuse must be hidden where it will not be offensive to the eye.

4. *Concessionaires.*—All persons, firms, or corporations holding concessions in the park must keep the grounds used by them properly policed and maintain the premises in a sanitary condition to the satisfaction of the supervisor.

5. *Bicycles.*—The greatest care must be exercised by persons using bicycles. On meeting a team the rider must stop and stand at side of road between the bicycle and the team—the outer side of the road if on a grade or curve. In passing a team from the rear the rider should learn from the driver if his horses are liable to frighten, in which case the driver should halt and the rider dismount and walk past, keeping between the bicycle and the team.

6. *Fishing.*—All fish less than 8 inches in length should at once be returned to the water with the least damage possible to the fish. Fish that are to be retained must be at once killed by a blow on the back

of the head or by thrusting a knife or other sharp instrument into the head. No person shall catch more than 20 fish in one day.

7. *Dogs.*—Dogs are not permitted in the park.

8. *Grazing animals.*—Only animals actually in use for purposes of transportation through the park may be grazed in the vicinity of the camps. They will not be allowed to run over any of the formations nor near to any of the geysers or hot springs; neither will they be allowed to run loose within 100 feet of the roads.

9. *Formations.*—No person will be allowed on any formations after sunset without a guide.

10. *Hotels.*—All tourists traveling with the authorized transportation companies, whether holding hotel coupons or paying cash, are allowed the privilege of extending their visit in the park at any of the hotels without extra charge for transportation. However, 24 hours' notice must be given to the managers of the transportation companies for reservations in other coaches.

11. *Driving on roads of park.*—(a) Drivers of vehicles of any description, when overtaken by other vehicles traveling at a faster rate of speed, shall, if requested to do so, turn out and give the latter free and unobstructed passageway.

(b) Vehicles in passing each other must give full half of the roadway. This applies to freight outfits as well as any other.

(c) Racing on the park roads is strictly prohibited.

(d) Freight, baggage, and heavy camping outfits on sidehill grades throughout the park will take the outer side of the road while being passed by passenger vehicles in either direction.

(e) In making a temporary halt on the road for any purpose all teams and vehicles will be pulled to one side of the road far enough to leave a free and unobstructed passageway. No stops on the road for luncheon or for camp purposes will be permitted. A team attached to a vehicle will not be left without the custody of a person competent to control it; a team detached from a vehicle will be securely tied to a tree or other fixed object before being left alone.

(f) In rounding sharp curves on the roads, like that in the Golden Gate Canyon, where the view ahead is completely cut off, drivers will slow down to a walk. Traveling at night is prohibited except in cases of emergency.

(g) Transportation companies, freight and wood contractors, and all other parties and persons using the park roads will be held liable for violation of these instructions.

(h) Pack trains will be required to follow trails whenever practicable. During the tourist season, when traveling on the road and vehicles carrying passengers are met, or such vehicles overtake pack trains, the pack train must move off the road not less than 100 feet and await the passage of the vehicle.

(i) During the tourist season pack animals, loose animals, or saddle horses, except those ridden by duly authorized persons on patrol or other public duties, are not permitted on the coach road between Gardiner and Fort Yellowstone.

(k) Riding at a gait faster than a slow trot on the plateaus near the hotels where tourists and other persons are accustomed to walk is prohibited.

(l) Mounted men on meeting a passenger team on a grade will halt on the outer side until the team passes. When approaching a passenger team from the rear, warning must be given, and no faster gait will be taken than is necessary to make the passage, and if on a grade the passage will be on the outer side. A passenger team must not be passed on a dangerous grade.

(m) All wagons used in hauling heavy freight over the park roads must have tires not less than 4 inches in width. This order does not apply to express freight hauled in light spring wagons with single teams.

12. *Liquors*.—All beer, wine, liquors, whisky, etc., brought into the Yellowstone National Park via Gardiner to be carried over the roads through the reservation to Cooke City, must be in sealed containers or packages, which must not be broken in transit.

13. *Miscellaneous*.—Motorcycles are not permitted in the park.

Persons are not allowed to bathe near any of the regularly traveled roads in the park without suitable bathing clothes.

14. *Penalty*.—The penalty for disregard of these instructions is summary ejection from the park.

Notices.—(a) Boat trip on Yellowstone Lake: The excursion boat on Yellowstone Lake plying between the Lake Hotel and the Thumb lunch station at the West Bay is not a part of the regular transportation of the park, and an extra charge is made by the boat company for this service.

(b) Side trips in park: Information relative to side trips in the park and the cost thereof can be procured from those authorized to transport passengers through or to provide for camping parties in the park; also at the office of the supervisor.

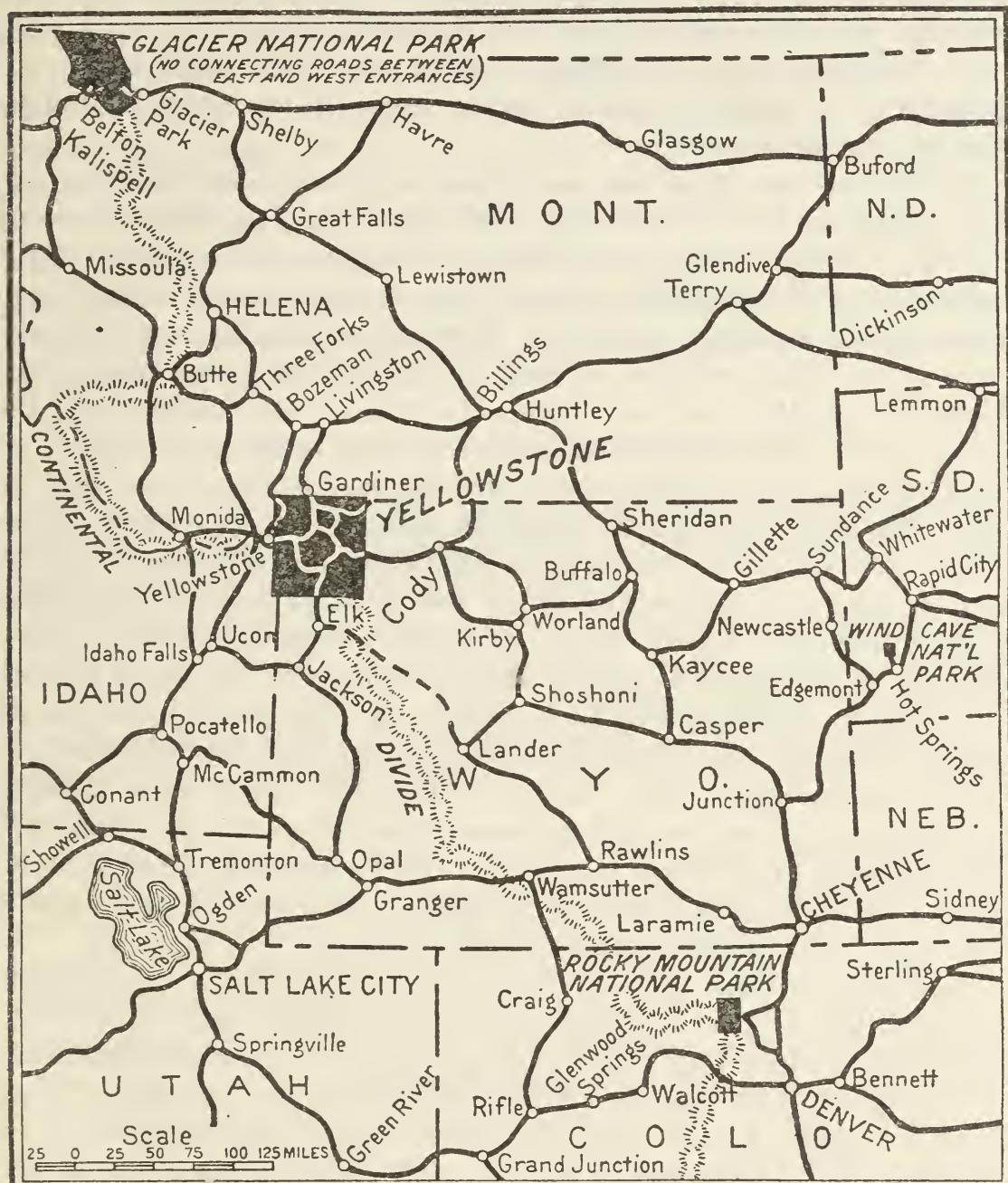
(c) All complaints by tourists and others as to service, etc., rendered in the reservation should be made to the supervisor in writing.

AUTOMOBILE REGULATIONS FOR THE SEASON OF 1916.

Pursuant to authority conferred by section 2475, Revised Statutes, United States, and the act of Congress approved May 7, 1894, the following regulations governing the admission of automobiles into

the Yellowstone National Park are hereby established and made public:

1. *Automobiles.*—The park is open only to such automobiles as are operated for pleasure and not to those carrying passengers who are paying, either directly or indirectly, for the use of the machine.



MAP SHOWING AUTOMOBILE ROUTES BETWEEN YELLOWSTONE, GLACIER, AND ROCKY MOUNTAIN NATIONAL PARKS.

2. *Motorcycles.*—Motorcycles are not permitted to enter the park.
3. *Tickets of passage.*—Ticket of passage must be secured and paid for at the checking station where the automobile enters the park. This ticket must be conveniently kept, so that it can be exhibited to park guards on demand, and must be surrendered at the last checking station on leaving the park. Tickets of passage will show (a) name

of owner, (b) license number of automobile, (c) name of State issuing license, (d) make of machine and manufacturer's number (e) name of driver, (f) seating capacity of machine, and (g) number of passengers.

4. *Fees.*—Fees are payable in cash only, and will be as follows: \$7.50 for a single trip through the park and \$10 for the season. All permits will expire on October 1 of the year of issue.

5. *Muffler cut-outs.*—Muffler cut-outs must be closed while approaching or passing riding horses, horse-drawn vehicles, hotels, camps, or soldier stations.

6. *Distance apart—Gears and brakes.*—Automobiles while in motion must not be less than 50 yards apart, except for purpose of passing, which is only permissible on comparatively level or slight grades. All automobiles, except while shifting gears, must retain their gears constantly enmeshed. Persons desiring to enter the park in an automobile will be required to satisfy the guard issuing the ticket of passage that the machine in general, and particularly the brakes and tires, are in first-class working order and capable of making the trip, and that there is sufficient gasoline in the tank to reach the next place where it may be obtained, and carry two extra tire,. For this purpose all drivers will be required effectually to block and skid the rear wheels with either foot or hand brake, or such other brakes as may be a part of the equipment of the automobile. Gasoline can be purchased at regular supply stations as per posted notices.

7. *Speeds.*—Speeds must be limited to 12 miles per hour ascending and 10 miles per hour descending steep grades, and to 8 miles per hour when approaching sharp curves. On good roads with straight stretches, and when no team is nearer than 200 yards, the speed may be increased to 20 miles per hour. Horns must be sounded at all curves where the road can not be seen for at least 200 yards ahead, and when approaching teams or riding animals.

8. *Teams.*—When teams, saddle horses, or pack trains approach, automobiles will take the outer edge of the roadway, regardless of the direction in which they may be going, taking care that sufficient room is left on the inside for the passage of vehicles and animals. Teams have the right of way, and automobiles will be backed or otherwise handled as may be necessary so as to enable teams to pass with safety. In no case must automobiles pass animals on the road at a greater speed than 8 miles per hour.

9. *Fines.*—Fines or other penalties will be imposed for arrival of automobiles at any point before approved lapse of time, hereinafter given, at the following rates: \$0.50 per minute for each of first five minutes; \$1 per minute for each of the next 20 minutes; \$25 fine or ejection from the park, or both, in the discretion of the acting superintendent of the park, for being more than 25 minutes early.

10. *Penalties.*—Violation of any of the foregoing rules or general regulations for government of the park will cause revocation of ticket of passage, and, in addition to the penalties hereinbefore indicated, will subject the owner of the automobile to any damage occasioned thereby, immediate ejectment from the reservation, and be cause for refusal to issue new ticket of passage to the owner without prior sanction in writing from the Secretary of the Interior.

11. *Accidents.*—When, due to breakdowns or accidents of any other nature, automobiles are unable to keep going or to reach the next stopping place on time, they must be immediately parked off the road, or where this is impossible, on the outer edge of the road, and wait until the next schedule for automobiles past that point, or until given special permission to proceed by park guards.

12. These regulations and schedules do not apply to automobiles passing over the county road in the northwest corner of the park, en route to the town of Yellowstone, Mont.

SCHEDULES AND GENERAL INSTRUCTIONS.

Automobiles may leave the park by any one of the authorized routes of entrance. Automobile drivers should compare their watches with the clocks at checking stations.

Automobiles stopping over at points other than the hotels and permanent camps will be allowed to resume travel only at such time as permits them to fall in with a subsequent regular automobile schedule past the point of stop-over. Such automobiles while stopping over must park out of sight of, or at least 100 yards from, the main road.

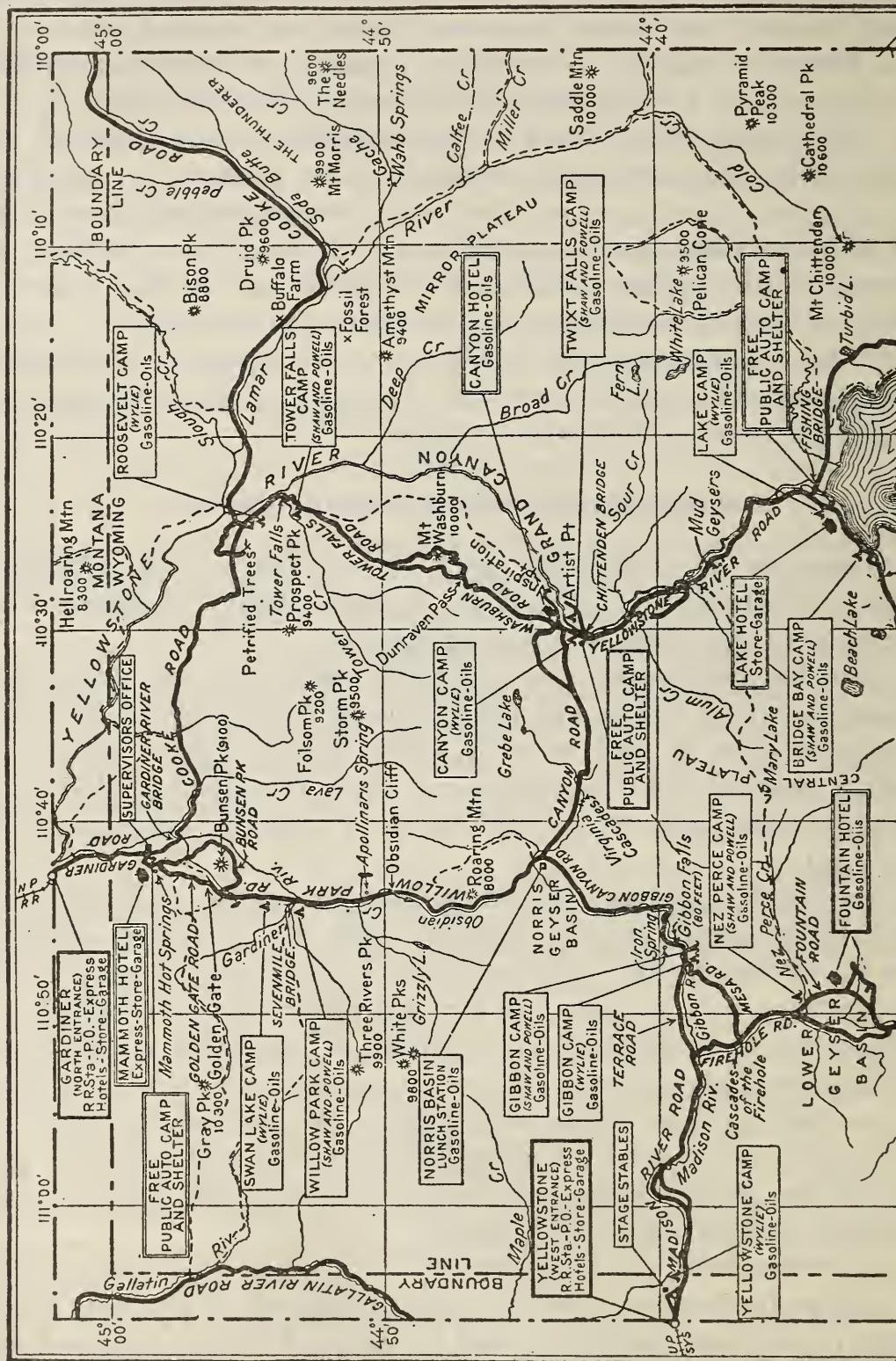
Automobiles stopping over at permanent camps must leave the same at the proper time to conform with the published schedules from the nearest hotels. Detailed times of departure to comply with this provision will be posted at the particular camps concerned.

When, due to breakdowns or accidents of any other nature, automobiles are unable to keep going, or to reach the next stopping place on time, they must be immediately parked off the road, or where this is impossible, on the outer edge of the road, and wait until the next schedule for automobiles past that point, or until given special permission to proceed by park guards.

Automobiles will not be permitted for use on local trips around hot springs formations or other points of interest off the main roads, except in the case specially noted at Artist Point, in the morning schedule from the Lake Hotel to Canyon.

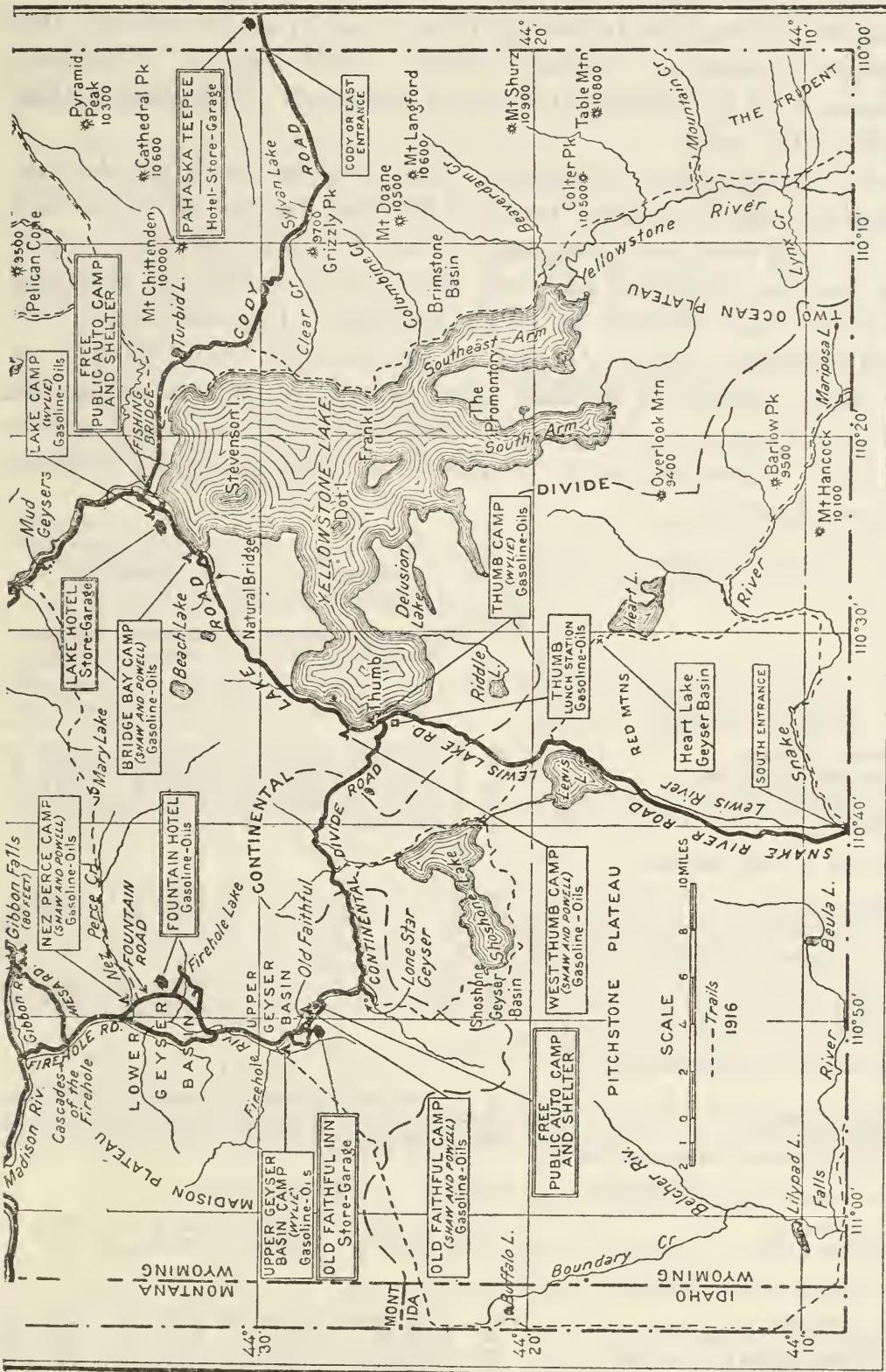
Speeds.—Speeds must be limited to 12 miles per hour ascending and 10 miles per hour descending steep grades, and to 8 miles per

hour when approaching sharp curves. On good roads with straight stretches, and when no team is nearer than 200 yards, the speed may be increased to 20 miles per hour.



Horns.—The horn will be sounded on approaching curves or stretches of road concealed for any considerable distance by slopes, overhanging trees, or other obstacles; and before meeting or passing other machines, or riding or driving animals.

Teams.—When teams, saddle horses, or pack trains approach, automobiles will take the outer edge of the roadway, regardless of the direction in which they may be going, taking care that sufficient



AUTOMOBILE MAP OF YELLOWSTONE NATIONAL PARK.

(Note that the two sections of the map overlap.)

room is left on the inside for the passage of vehicles and animals. Teams have the right of way, and automobiles will be backed or otherwise handled as may be necessary so as to enable teams to pass

with safety. In no case will automobiles pass animals on the road at a greater speed than 8 miles per hour.

In addition to the schedules herein given, automobiles must keep clear of any horse-drawn passenger vehicles running upon regular schedules which may be following them; and upon overtaking any horse-drawn passenger vehicles running upon regular schedules, automobiles must not attempt to pass or approach closer than within 150 yards of the same.

Reduced engine power—Gasoline, etc.—Due to the high altitude of the park roads, averaging nearly 7,650 feet for the belt line and east, north, and west entrances, the power of all automobiles is much reduced, so that about 50 per cent more gasoline will be required than for the same distance at lower altitudes. Likewise one lower gear will generally have to be used on grades than would have to be used in other places. A further effect that must be watched is the heating of the engine on long roads, which may become serious unless care is used. Gasoline can be purchased at regular supply stations as per posted notices.

	Miles.	Schedule A.		Schedule B.	
		Not earlier than—	Not later than—	Not earlier than—	Not later than—
GARDINER TO NORRIS.					
Leave Gardiner Entrance.....	0	6.00 a. m.	6.30 a. m.	2.30 p. m.	3.00 p. m.
Arrive Mammoth Hot Springs.....	5	6.20 a. m.	7.00 a. m.	2.50 p. m.	3.30 p. m.
Leave Mammoth Hot Springs.....	0	6.45 a. m.	7.15 a. m.	5.45 p. m.	6.15 p. m.
Leave Eight-mile Post.....	8		8.00 a. m.	(¹)	(¹)
Arrive Norris.....	20		9.00 a. m.	.....	.....
NORRIS TO WEST ENTRANCE.					
Leave Norris.....	0	.....	.....	4.00 p. m.	4.30 p. m.
Arrive West Entrance.....	27	.....	.....	6.00 p. m.	6.30 p. m.
NORRIS TO CANYON.					
Leave Norris.....	0	.....	.....	3.15 p. m.	3.30 p. m.
Arrive Canyon.....	11	.....	.....	4.00 p. m.	4.30 p. m.
(For Gallatin Station Entrance see Note 1.)					
NORRIS TO FOUNTAIN HOTEL.					
Leave Norris.....	0	2 8.30 a. m.	2 9.15 a. m.	3 4.00 p. m.	3 4.30 p. m.
Leave Firehole Cascades.....	14.7	.....	10.30 a. m.	.....	.....
Arrive Fountain Hotel.....	20	10.30 a. m.	11.00 a. m.	5.45 p. m.	6.15 p. m.
(For Gallatin Station Entrance see Note 1.)					
WEST ENTRANCE TO FOUNTAIN HOTEL.					
Leave West Entrance.....	0	6.45 a. m.	7.15 a. m.	7.30 p. m.	8.00 p. m.
Arrive Fountain Hotel.....	21	8.30 a. m.	9.00 a. m.	(¹)	(¹)
FOUNTAIN HOTEL TO THUMB.					
Leave Fountain Hotel.....	0	10.30 a. m.	11.00 a. m.	5.45 p. m.	6.15 p. m.
Arrive Upper Basin (Old Faithful Inn).....	9	12.00 p. m.	12.30 p. m.	6.45 p. m.	7.00 p. m.
Leave Upper Basin (Old Faithful Inn).....	0	2.30 p. m.	3.00 p. m.	7.00 a. m.	7.30 a. m.
Arrive Thumb Station.....	19	4.30 p. m.	5.00 p. m.	8.30 a. m.	9.30 a. m.
(For South Entrance see Note 1.)					
THUMB TO LAKE HOTEL.					
Leave Thumb Station.....	0	4.30 p. m.	5.00 p. m.	8.30 a. m.	9.30 a. m.
Arrive Lake Hotel.....	15	5.45 p. m.	6.15 p. m.	10.00 a. m.	11.30 a. m.

¹ See Note 3.

² Via Mesa Road.

³ Via Mesa Road or Madison Junction.

	Miles.	Schedule A.		Schedule B.	
		Not earlier than—	Not later than—	Not earlier than—	Not later than—
LAKE HOTEL TO EAST BOUNDARY.					
Leave Lake Hotel (see Note 1).....	0				
Arrive East Boundary.....	28				
EAST BOUNDARY TO LAKE HOTEL.					
Leave East Boundary (see Note 1).....	0				
Arrive Lake Hotel.....	28				
LAKE HOTEL TO CANYON.					
Leave Lake Hotel. (See Note 2).....	0	7.00 a. m.	7.30 a. m.	2.00 p. m.	2.30 p. m.
Leave Canyon Soldier Station.....	16	9.00 a. m.	10.00 a. m.		
Arrive Canyon Hotel.....	17	9.10 a. m.	10.10 a. m.	3.15 p. m.	3.45 p. m.
CANYON TO NORRIS.					
Leave Canyon Hotel.....	0	3.15 p. m.	3.30 p. m.		
Arrive Norris.....	12	4.00 p. m.	4.30 p. m.		
(For schedules from Norris to Fountain, Upper Basin, and West Entrance, see above.)					
CANYON TO TOWER FALLS.					
Leave Canyon Hotel.....	0	1.30 p. m.	2.00 p. m.	7.00 a. m.	7.30 a. m.
Arrive Tower Falls—					
Via Dunraven Pass.....	16	3.00 p. m.	3.45 p. m.	8.30 a. m.	9.15 a. m.
Via Mount Washburn.....	19	4.15 p. m.	4.45 p. m.	9.45 a. m.	10.15 a. m.
(For Cooke City Entrance see Note 1.)					
TOWER FALLS TO GARDINER.					
Leave Tower Falls.....	0	3.15 p. m.	4.45 p. m.	8.30 a. m.	10.15 a. m.
Arrive Mammoth Hot Springs.....	20	5.30 p. m.	6.45 p. m.	10.00 a. m.	12.15 p. m.
Leave Mammoth Hot Springs (via Main Road).....	0	7.00 a. m.	7.30 a. m.	2.30 p. m.	3.00 p. m.
Arrive Gardiner Entrance.....	5	7.20 a. m.	8.00 a. m.	2.50 p. m.	3.30 p. m.
MAMMOTH HOT SPRINGS TO GARDINER.					
Leave Mammoth Hot Springs (via Old Road).....	0	8.45 a. m.	9.00 a. m.	11.45 a. m.	1.00 p. m.
Arrive Gardiner Entrance.....	5	9.30 a. m.	9.45 a. m.	12.15 p. m.	1.45 p. m.

The acting supervisor of the park has authority to change these schedules if necessary.

NOTE 1.—Owing to scarcity of travel on the roads named, automobiles will be permitted to travel without schedule on the roads between the South Entrance and the Thumb; between the East Entrance and the Lake; between the Northeast or Cooke City Entrance and Tower Falls Station; and between the West Entrance (Yellowstone, Mont.) and the Northwest or Gallatin Station entrance. Upon entering the main roads at the Thumb, Lake, Tower Falls, and the West Entrance, however, automobiles must conform to the regular schedules.

NOTE 2.—Automobiles making the morning trip from the Lake to the Canyon will be permitted to make the side trip to Artist Point, provided they keep within the schedule upon passing Canyon Soldier Station.

NOTE 3.—The road from the Wylie Swan Lake Camp to Norris; the Norris-Fountain-Upper Basin-Thumb-Lake-Canyon-Norris road (called the Belt Line); and the road from the Canyon to Mammoth Hot Springs via Dunraven Pass, are open to automobile and truck travel without schedule from 6.30 p. m. to 6.45 a. m.

AUTOMOBILE CAMPS AND SHELTERS.

It is planned to provide free public automobile camps and shelters at Mammoth Hot Springs, Upper Geyser Basin, near Lake Hotel, and Grand Canyon. While the details have not been fully worked out, the present plan contemplates a shelter for machines and a fireplace protected from the weather which may be used by the tourists in common. Tourists may camp on designated areas close to the shelter. Detailed information regarding these camps and shelters may be obtained at the various entrances to the park.

PANORAMIC VIEW.

The view described below may be purchased from the Superintendent of Documents, Government Printing Office, Washington, D. C.

Panoramic view of Yellowstone National Park; 18 by 21 inches; scale, 3 miles to the inch. Price, 25 cents.¹

This view is based on accurate surveys and gives an excellent idea of the configuration of the surface as it would appear to a person flying over it. The meadows and valleys are printed in light green, the streams and lakes in light blue, the cliffs and ridges in brown tints, and the roads in light brown. The lettering is printed in light brown and is easily read on close inspection, but merges into the other colors when the sheet is held at some distance.

MAPS.

Topographic maps of the park and adjacent areas may be purchased from the Director of the Geological Survey, Washington, D. C., at the prices indicated below. Remittances should be by cash or money order.

Map of Yellowstone National Park, size 28½ by 32 inches; scale, 2 miles to the inch. Price, 25 cents.¹

The roads, trails, and names are put in black, the streams and lakes in blue, and the relief is indicated by brown contour lines.

The areas north, east, and south of the park are mapped on the atlas sheets of the Geological Survey listed below. These maps should be ordered by the names of the atlas sheets. They are printed in the same colors as the large map of the park described above.

Area north of park: Livingston sheet, scale 4 miles to the inch. Price, 10 cents.

Area east of park: Crandall and Ishawooa sheets, scale 2 miles to the inch. Price, 10 cents each.

Area south of park: Mount Leidy and Grand Teton sheets, scale 2 miles to the inch. Price, 10 cents each.

LITERATURE.

GOVERNMENT PUBLICATIONS.

Government publications on Yellowstone National Park may be obtained as indicated below. Separate communications should be addressed to the officers mentioned.

DISTRIBUTED FREE BY THE SECRETARY OF THE INTERIOR.

The three following publications may be obtained free by written request addressed to the Secretary of the Interior or by personal application to the office of the supervisor of the park:

General information regarding Yellowstone National Park.

This circular is issued each season and contains data regarding hotels, camps, and principal points of interest, lists of books and magazine articles, a sketch map, and the rules and regulations.

Annual report of the superintendent of Yellowstone National Park.

This is the annual administrative report; it does not contain illustrations or descriptive matter.

Glimpses of our national parks. 48 pages.

Contains descriptions of the most important features of the principal national parks and the Grand Canyon of the Colorado.

¹ May be purchased by personal application to the office of the supervisor of the park, at Mammoth Hot Springs, but that office can not fill mail orders.

SOLD BY THE SUPERINTENDENT OF DOCUMENTS.

The following publications may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., at the prices given. Remittances should be by money order or in cash:

Geological History of Yellowstone National Park, by Arnold Hague, 24 pages, including 10 illustrations, 10 cents.¹

This pamphlet contains a general résumé of the geologic forces that have been active in the Yellowstone National Park.

Geysers, by Walter Harvey Weed, 32 pages, including 23 illustrations, 10 cents.¹

In this pamphlet is a description of the forces which have produced the geysers, and the geysers of the Yellowstone are compared with those in Iceland and New Zealand.

Fossil Forests of the Yellowstone National Park, by F. H. Knowlton, 32 pages, including 15 illustrations, 10 cents.¹

This pamphlet contains descriptions of the fossil forests of the Yellowstone National Park and an account of their origin.

Fishes of the Yellowstone National Park, by W. C. Kendall (Bureau of Fisheries Document 818). 1915. 28 pages, including 17 illustrations. 5 cents.

Contains descriptions of the species and lists of streams where found.

BOOKS²

ALLEN, E. F. A Guide to the National Parks of America, 1915. 286 pages.

[**BARNES, O. P.**] Fly fishing in wonderland, by Klahowya [1910], 56 pp., illustrated.

BARTH, THEODOR. Amerikanisch Eindruck. 1907. 117 pp.

Yellowstone on pp. 62-67.

BRYCE, JAMES. University and historical addresses. 1913. 433 pp.

National parks—The need of the future on pp. 389-406.

CAMPBELL, REAU. Complete guide and descriptive book of the Yellowstone Park. 1909. 173 pp., illustrated.

CHITTENDEN, H. M. The Yellowstone National Park, historical and descriptive. 1895. 397 pp., illustrated.

CRONAU, RUDOLF. Im wilden Westen. 1890. 383 pp., illustrated.

Yellowstone on pp. 163-185; Yosemite on pp. 259-275.

DUMBELL, K. E. M. California and the Far West, 1914. 198 pages.

Yellowstone on pp. 83-90; Glacier on pp. 23-26; Crater Lake on pp. 30-41; Mesa Verde on pp. 78-80; Yosemite on pp. 147-156; Sequoia on pp. 161-162.

DUNRAVEN, EARL OF. The Great Divide: Travels in the Upper Yellowstone in summer of 1874. 1876. 377 pp., illustrated.

A good description of the park in its early days.

FINCK, H. T. Pacific coast scenic tour. 1890. 309 pp., illustrated.

Yellowstone on pp. 279-293; Yosemite on pp. 81-107; Crater Lake on pp. 157-157; Mount Rainier on pp. 209-216.

FOUNTAIN, PAUL. The eleven eaglets of the West. London, 1906. 362 pp.

An account of travels in 11 Western States and Territories. Yellowstone Park is described on pp. 173-195. Contains also descriptions of Yosemite, Mount Rainier, and Crater Lake.

GUNNISON, ALMON. Rambles overland. 1884. 245 pp.

Yellowstone on pp. 27-82; Yosemite on pp. 125-156.

HALLAHAN, D. F. Tourists in the Northwest, 1914. 151 pages.

Yellowstone on pp. 42-86; Mount Rainier on pp. 99-109.

HARRISON, CARTER H. A summer's outing and the old man's story. 1891. 297 pp., illustrated.

Yellowstone on pp. 15-81.

HAYNES, JACK E. Guide to the Yellowstone National Park. 172 pp., illustrated.

¹ May be purchased by personal application to the office of the supervisor of the park, at Mammoth Hot Springs, but that office can not fill mail orders.

² These books are not available for distribution by the Department of the Interior.

- HERBERTSON, F. D. and A. J. Descriptive geography from original sources: North America. 1901. 252 pp.
 Yellowstone on pp. 171-180; Yosemite on pp. 194-196; Crater Lake on pp. 166-167.
- HESSE-WARTEGG, ERNEST VON. Nord-Amerika: Seine Städte und Naturwunder. 3 vols. 1880.
 Yellowstone in vol. 2, pp. 228-242; Yosemite in vol. 2, pp. 130-144.
- HIRSCHBERG, JULIUS. Von New York nach San Francisco: Tagebuchblätter. 1888. 276 pp.
 Yellowstone on pp. 77-111; Yosemite on pp. 190-201.
- HOLMES, BURTON. Travelogues, vol. 6: The Yellowstone National Park; the Grand Canyon of the Arizona; Moki Land. 1908. 336 pp., illustrated.
 Yellowstone on pp. 5-112.
- JOHNSON, CLIFTON. Highways and byways of the Rocky Mountains. 1910. 279 pp., illustrated.
 Yellowstone on pp. 215-232.
- KIPLING, RUDYARD. American notes.
 Issued in several editions. One chapter contains an account of a trip through the Yellowstone Park in 1889.
- KUNTZEMÜLLER, A. Das Wunderland am Yellowstone. 1908. 40 pp.
- LANGFORD, N. P. Diary of the Washburn expedition to the Yellowstone and Firehole Rivers in the year 1870. [1905.] 122 pp., illustrated.
 A good account of one of the early expeditions to the park.
- LECLERCQ, JULES. La Terre des merveilles: Promenade au parc national de l'Amérique du Nord. 1886. 384 pp., illustrated.
- MORRIS, Mrs. JAMES EDWIN. A Pacific coast vacation. 1901. 255 pp., illustrated.
 Yellowstone on pp. 236-255; Yosemite on pp. 191-209.
- MUIR, JOHN. Our national parks. 1909. 382 pp., illustrated.
 Yellowstone on pp. 37-75; Yosemite on pp. 76-267; Sequoia and General Grant on pp. 268-330.
- MURPHY, JOHN. Rambles in northwestern America. 1879. 359 pp.
 Yellowstone on pp. 209-222.
- MURPHY, THOMAS D. Three wonderlands of the American West. 1912. 180 pp.
 Yellowstone on pp. 1-58; Yosemite on pp. 59-109. Contains color reproductions of Moran's paintings.
- PECK, J. K. The seven wonders of the new world. 1885. 320 pp.
 Yellowstone on pp. 71-114; Yosemite on pp. 205-244, 284-320.
- PIERREPONT, EDWARD. Fifth Avenue to Alaska. 1884. 329 pp.
 Yellowstone on pp. 237-311; Yosemite on pp. 57-68.
- PORTER, T. C. Impressions of America. 1899. 241 pp., illustrated.
 Yellowstone on pp. 24-93; Yosemite on pp. 108-142.
- PRICE, ROSE LAMBERT. A summer on the Rockies. 1898. 280 pp.
 Yellowstone on pp. 166-217.
- RICHARDSON, JAMES. Wonders of the Yellowstone. 1873. 256 pp., illustrated.
- ROBERTS, EDWARD. Shoshone and other Western wonders. 1888. 275 pp.
 Yellowstone on pp. 202-245.
- RYDBERG, PER AXEL. Catalogue of the flora of Montana and the Yellowstone National Park. Memoirs of the New York Botanical Garden, vol. 1. 1903. 492 pp., map.
- SANDERS, H. F. History of Montana, vol. 1. 1913. 847 pp.
 Yellowstone on pp. 650-684.
- SCHAUFFLER, R. H. Romantic America. 1913. 339 pp.
 Yellowstone on pp. 134-160; Yosemite on pp. 192-224.
- SENN, NICHOLAS. Our national recreation parks. 1904. 147 pp., illustrated.
 Yellowstone on pp. 17-92; Yosemite on pp. 93-147. Contains notes on fauna in addition to descriptive matter.
- SESSIONS, FRANCIS C. From Yellowstone Park to Alaska. 1890. 186 pp., illustrated.
 Yellowstone on pp. 9-39.
- SKINNER, M. P. Birds of the Yellowstone, 1916. Illustrated.
- SMITH, F. DUMONT. Book of a hundred bears. 1909. 233 pp., illustrated.

- STANLEY, EDWIN J. Rambles in wonderland or up the Yellowstone and among the geysers and other curiosities of the National Park. 1878. 179 pp., illustrated.
- STODDARD, JOHN L. Lectures, vol. 10. Southern California, Grand Canyon of the Colorado River, Yellowstone National Park. 1911. 304 pp., illustrated. Yellowstone on pp. 207-304.
- STRAHORN, C. A. Fifteen thousand miles by stage. 1911. 693 pp., illustrated. Early days in Yellowstone, pp. 254-286.
- SYNGE, GEORGIANA M. A ride through Wonderland. 1892. 166 pp., illustrated.
- TAYLOR, CHARLES MAUS, JR. Touring Alaska and the Yellowstone. (1901.) 388 pp., illustrated. Yellowstone on pp. 283-388.
- TISSANDIER, ALBERT. Six mois aux Etats Unis [1886], 298 pp. Yellowstone on pp. 170-188; Yosemite on pp. 139-165.
- TOMLINSON, EVERETT TITSWORTH. Four boys in the Yellowstone. [1906.] 399 pp., illustrated.
- U. S. GEOLOGICAL SURVEY. Monograph 32, part 2, Descriptive geology, petrography, and paleontology of the Yellowstone National Park.
- U. S. GEOLOGICAL SURVEY. Geologic Folio No. 30, containing topographic and geologic maps of the park and a description of the geology.
- WILEY, WILLIAM H. and SARAH K. The Yosemite, Alaska, and the Yellowstone. [1893] 230 pp., illustrated. Yellowstone on pp. 205-230.
- WINGATE, GEORGE W. Through the Yellowstone Park on horseback. 1886. 250 pp., illustrated. Contains notes on the fauna and flora.

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- AMERICAN ARCHITECT, vol. 13 (Mar. 7, 1883), p. 130. The Yellowstone National Park, by C. F. Driscoll.
- AMERICAN CIVIC ASSOCIATION (Washington, D. C.), National Parks, 32 pp. Contains "National Parks, the need or the future." by James Bryce; Address on a Bureau of National Parks, by W. H. Taft; Address on a Bureau of National Parks, by Walter L. Fisher; "Are National Parks worth while?" by J. H. McFarland.
- AMERICAN FORESTRY, vol. 19 (May, 1913), pp. 300-317. Yellowstone Park, by Arnold Hague.
- AMERICAN GEOLOGIST, vol. 20 (September, 1897), pp. 159-167. Some geological cause of the scenery of Yellowstone National Park, by A. R. Crook.
- AMERICAN HOMES AND GARDENS, vol. 2 (June, 1906), pp. 392-395. The animals of Yellowstone Park, by K. L. Smith.
- AMERICAN INSTITUTE OF MINING ENGINEERS, TRANSACTIONS, vol. 16 (1888), pp. 46-49. Engineering relations of the Yellowstone Park, by T. B. Comstock.
- vol. 16 (1888), pp. 783-803. Geological history of the Yellowstone National Park, by Arnold Hague.
- vol. 17 (1889), pp. 449-453. Soaping geysers, by R. W. Raymond.
- AMERICAN JOURNAL OF SCIENCE, 3d s., vol. 3 (February and March, 1872), pp. 105-115, 161-176. The hot springs and geysers of the Yellowstone and Firehold Rivers, by F. V. Hayden.
- 3d s., vol. 3 (April, 1872), pp. 294-297. The Yellowstone National Park, by F. V. Hayden.
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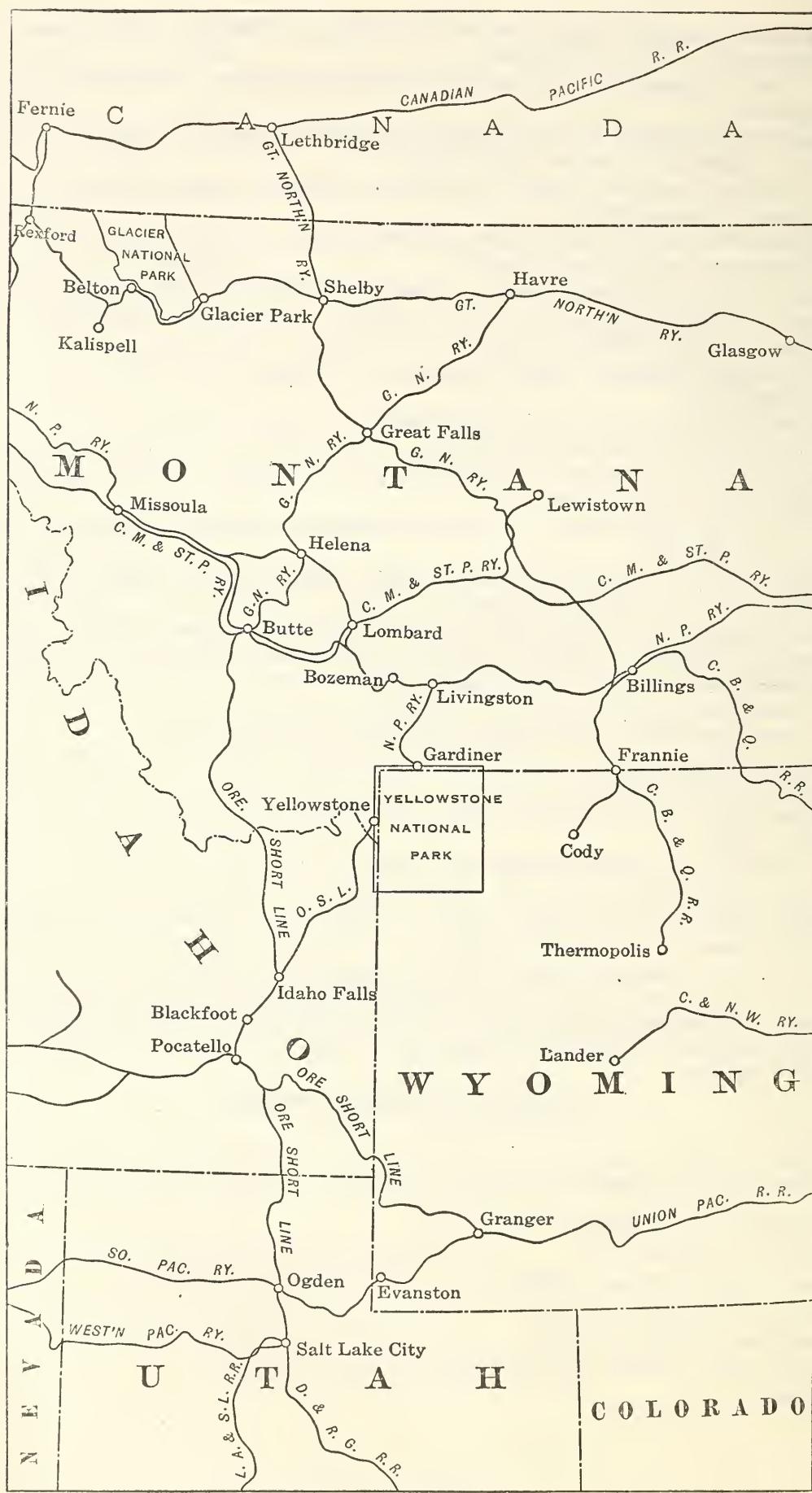
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OTHER NATIONAL PARKS.

The circulars containing information about National Parks listed below may be obtained free of charge by writing to the Secretary of the Interior, Washington, D. C.

- | | |
|---|-------------------------------|
| Yosemite National Park. | The Hot Springs of Arkansas. |
| Mount Rainier National Park. | Glacier National Park. |
| Crater Lake National Park. | Rocky Mountain National Park. |
| Mesa Verde National Park. | Wind Cave National Park. |
| Sequoia and General Grant National Parks. | Casa Grande Ruin. |



Approximate Scale

100 90 80 70 60 50 40 30 20 10 0

200 Stat. Miles

MAP SHOWING RAILROAD ROUTES TO YELLOWSTONE AND GLACIER NATIONAL PARKS.

